DOCUMENT RESUME

ED 033 557 EF 003 648

AUTHOR	Strohecker, Edwin C., Ed.
TITLE	Design for Progress. A Report of the Workshop in School Library Quarters and Equipment, July 9 to 20, 1962.
Pub Date	63
Note	85p.
Available from	Department of Library Science, Nazareth College, Louisville, Kentucky
EDRS Price	EDRS Price MF-$0.50 HC Not Available from EDRS.
Descriptors	Acoustics, Audiovisual Aids, Building Design, Controlled Environment, Cooperative Planning, Flooring, Furniture, Interior Design, *Libraries, *Library Equipment, *Library Facilities, *Library Planning, Library Standards, Lighting, Thermal Environment

Abstract

Significant ideas brought out in the workshop include--(1) that the library is a necessary part of the whole relational structure in education, and (2) that changes in educational programs and methods call for new library planning standards; a library should be able to provide science facilities, audiovisual materials, and a variety of group-work as well as individual research areas. Topics treated in the workshop sessions include interior decoration, floor covering, lighting, furniture and other equipment, sound and thermal control, and the working relation between architect and librarian. The report also includes a review of several workshop discussions, an outline of planning requirements and procedures stemming from the workshop, and a bibliography of related reading. (KK)

ED033557

DESIGN FOR PROGRESS

A Report of the Workshop

in

School Library Quarters and Equipment

July 9 to 20, 1962

Edited
by
Edwin C. Strohecker

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Distributed
by
Department of Library Science
Nazareth College
Louisville, Kentucky

1963

EF 003 648

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INTRODUCTION

For the third time at Nazareth College, a workshop under the auspices of the department of library science brings together administrators, teachers and librarians to plot--not against, but for the student. This year's theme, "Design for Progress," is focused on the planning and equipping of the school library.

The subject is broader than may at first appear. Facilities are determined by function, and the function of the library, ideally, is becoming more and more an integral part of the total configuration of learning. The blueprints for library quarters and facilities will depend to a large extent upon the developing curriculum and methods of the school. Thus we see the link between this year's program and that of preceding years.

"Design for Progress," I think, should be approached with the free, creative, adventuresome spirit of the child making ready to build and furnish a toy house. He is circumscribed, of course, by his cardboard pieces or his erector set, but his imagination goes far beyond what he actually has in hand. So, too, even while we plan to make the most of the library facilities which we actually have to work with, we must dream the libraries of the future in terms of what we want them to be. Otherwise they will never come to be. May the addresses and the discussions of the workshop provide ideas and incentives for these purposes.

Sister Mary Catharine, S.C.N.
Dean, Nazareth College

FOREWORD

Planning school library quarters must begin with an understanding of the library's relationship to the entire school program. The needs of the library patrons must be recognized and the services to be rendered must be considered. Architectual design, interior decoration, furniture, and equipment will then be evaluated so as to establish an instructional materials center which will fulfill its educational objective.

"Design for Progress" presented the planning of a functional library from idea to reality. The students were given the opportunity to become better acquainted with the views and opinions of the individuals who become involved in the achievement of the plan. Field trips to newly constructed and remodeled library quarters played an important part in the evaluation and comparison of specific features.

This report includes the speeches, lectures, and discussions which took place during the workshop.[1] The lectures and speeches have been edited from notes and tape recordings; the group discussion summary has been compiled from the group activities.

We are indebted to the speakers for their generous and enthusiastic contributions. The workshop staff also deserves our gratitude for their diligence and unselfishness, which helped to make the workshop a success.

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[1] Miss Mahar's speech was released for publication in the November, 1962, issue of Catholic Property Administration.

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NEW DIMENSIONS IN PLANNING SCHOOL LIBRARY QUARTERS

by

Mary Helen Mahar

The definition for "dimensions," used figuratively, in Funk & Wagnalls New Standard Dictionary, uses this example:

> The little is seen best near: the great appears in its proper dimensions, only from a more commanding point of view. -Hazlitt, Jeremy Bentham, vol. 111, p. 4.-

"Dimensions" in the title of this talk is being used in the figurative sense, to indicate the effects of new trends in education and in school plant planning on school library facilities. I am taking the "commanding point of view" partly because it is important for us to take a look at instructional programs in today's schools and how they can be best served by school library facilities, and partly because you have people participating in your workshop who are much better equipped than I am to deal with the specifics of school library planning.

I hope that many of you had the opportunity to attend the recent pre-conference of the American Association of School Librarians at Hollywood, Florida, and to hear the paper by Marvin Johnson, Chief Design Consultant, North Carolina Department of Public Instruction, New Design for Planning School Buildings. In this excellent presentation, which will be published in School Libraries, Mr. Johnson said that architects should receive a description of what takes place in a school library. It seems to me that this advice, although it has been given before, has not been followed to any degree. There are revolutionary trends and developments on instructional programs and methods, and at the same time, school design is changing radically from conventional patterns.

Standards for school library quarters although indispensible, cannot alone interpret to architects the utilization of library facilities. Librarians who employ standards or school library plans for other schools without consideration for the individual school's program in planning new or remodeled school library quarters often end up with nonfunctional quarters. (Notice the number of unused conference rooms in school libraries.) A dilemma here quickly comes to mind: new teachers use different methods; school programs change; often school buildings are reassigned to a different grade level.

Nevertheless, we must strike a balance between general specifications and individual school needs in library service, and plan for fully functional library facilities.

Before school librarians can convey to architects what takes place in a school library, principals, supervisors and teachers must be consulted to find out the direction that school library utilization would take, if facilities accommodated needs. Teachers often have highly creative ideas for school library use which can be translated into imaginative and functional school library quarters. Plans thus arrived at, and communicated to architects, produce superior school library facilities. Administrators and teachers are influenced in their ideas by current educational trends. Let us examine some of the forces in education influencing teachers.

The recently published policy statement of the Council of Chief State School Officers, Responsibilities of State Departments of Education for School Library Services, states: "School library services are a part of instruction." (See Forward.) It also states: "In both elementary and secondary schools the library should be the center for a rich variety of materials which not only provide for the needs of the instructional program but stimulate independent study and research by both teachers and pupils." (See page 2.) A third significant statement of this publication is: "The State department of education should foster the concept of the library as an integrated instructional materials center, including books, periodicals, audio-visual equipment and materials..." (See page 3.)

Since the Council of Chief State School Officers and other authoritative educational groups have accepted these principles, our concept of school library quarters must be greatly changed and broadened. The traditional school library has not been planned to serve the whole basic instructional program, but has tended to function as a supplementary and peripheral service. Now we must be prepared to serve teachers, classes, groups, and individual pupils with many different types of materials not only in the library, but in many areas of the school where instruction takes place. As school librarians, we have, of course, always provided books and materials for classroom use, but in our new schools, there will be new study areas to be provided for. For example, we may have in new schools adjacent to science laboratories small study rooms equipped with shelves for printed reference materials, and projectors for viewing demonstration films and filmstrips, to be used by pupils in relation to laboratory work. Our school libraries of the future, therefore, not only must have special accommodations for new types of materials and activities with these materials in the library, but we must also help plan for the shelving, and use of library materials on loan to many parts of the school.

In May, we held in the Office of Education a conference entitled, The School Library as a Materials Center: Educational Needs of Librarians and Teachers in its Administration and Use. This conference, requested by the State School Library Supervisors, is a reflection of the nationwide interest, not only in the school library as a materials center, but in the need for broadened training for school librarians, (and teachers), to direct and use this complex service. One of the papers deals with competencies needed by school librarians for planning quarters of materials centers. We will publish the Proceedings, and I am sure you will find this paper, and others, useful. Title VII of the National Defense Education Act, which provides funds for research in the utilization of newer media, has produced two studies of direct bearing: Planning Schools for Newer Media, and the Lohrer study - The Role of School Libraries which Function as Instructional Materials Center, with Implications for Training. Miss Lohrer has visited many school libraries in the United States, and her report will also be of interest to you.

Surely the research, experimentation and ferment about the potential of audio-visual methods has had, and will have, ever increasing effects on school library quarters. The growth of the use of language laboratories in foreign language instruction requires the organization and circulation of the tapes used for this method; the development of special materials on recordings suited to the oral-aural approach in modern language teaching, and the development of film series such as the Heath-Rochemont for foreign language instruction point to new responsibilities for the storage and circulation of these materials in the library. Space not only for the shelving and storage, but also for the evaluation of new materials, must be planned. The expanded use of these types of materials extends, of course, into many areas of the curriculum besides modern foreign languages - English, social sciences, mathematics, science, art, vocational subjects - both elementary and secondary. A few cabinets of filmstrip and one or two cases for recordings will no longer accommodate the materials needed for instruction.

Some school libraries are now including space for the production of materials by teachers - the making of slides, transparencies, and other teaching aids. The Instructional Materials Center of West Leyden High School in North Lake, Illinois, includes a room for making materials. (See Mr. Kenneth Taylor's articles on this Center in Nation's Schools, December, 1960; January, 1961.) We may be storing programs for teaching machines - at the present, there are more machines than programs. We should be aware of the potential of the eight millimeter film. If there is growth in the production of eight millimeter educational films, I am sure school libraries will be housing and circulating this convenient and interesting medium. If our new schools are being equipped for closed circuit television, the library should be included. For orientation programs in the use of libraries, closed circuit television can be an invaluable time-saver. The employment of electronic devices for incidental self-teaching by pupils in the use of the card catalog, Readers Guide and other indexes in the libraries, will also require the provision of convenient space for these materials as well as viewers and projectors.

The creative ideas of J. Lloyd Trump for innovations in secondary school instruction have made a great impact on education, and these ideas are being carried out, or experimented with, in a number of high schools throughout the United States. They have many direct implications for school library quarters. Dr. Trump suggests that we give up the traditional 45 or 50-minute period day, and block out larger segments of time for large group instruction, small group instruction, individual conferences and independent study. In Images of the Future, he advocates 40 percent of students' time for independent study in school libraries, laboratories, resource centers, workshops. He envisions high school pupils studying subjects in depth - not simply learning isolated segments of subjects assigned daily by teachers. As a result of this one idea, many secondary school libraries, including junior high schools, now provide space for individual carrels, with books and materials set aside for individual students. In the future, school librarians may have the responsibility for planning these individual study facilities in other parts of the school.

The new emphasis on independent study, particularly for our more able pupils, implies, I believe, the need for increased competence in library research techniques. Beyond lessons in the general use of card catalogs and general reference materials, our high school pupils need advanced instruction in the use of subject headings, and specialized reference materials for research in science, social studies, and other areas of curriculum. School librarians have a function to perform here, in many of our high schools, and for this purpose, a library classroom is an important part of the school library suite. In planning new or remodelled school libraries, therefore, we should examine our school's program for the gifted, or for advanced placement, and determine whether a library classroom is important for our library service.

There is currently a great deal of research going on in education - in techniques of instruction, the psychology of learning, the special needs of culturally deprived children - and this research is being described and discussed in educational literature. Administrators and teachers require ready access to professional literature in order to keep abreast of research findings, and to acquire knowledge as a basis for employing new techniques. Even in larger school systems having central professional libraries for teachers, current professional literature should be available in the individual school building. Some schools provide a browsing area with shelving in faculty rooms; in others, a part of the school library is planned for professional materials for teachers. Some schools prefer the latter because the school library area is quieter and more conducive to study. If library service with professional materials is desired by teachers, then this fact must be made known to the architect.

Some of our schools are abandoning study halls, and are still retaining the 45 or 50 minute period for each class. In these schools, the library can be used voluntarily by pupils only before and after school. Therefore, if the library is going to function in curriculum, whole classes, or groups from classes must be accommodated in the library during the school day, and more space for library materials in classrooms must be provided. In this kind of school, it may be wise to consider departmentalizing the school library in the manner of Your Community High School, Elmhurst, Illinois. That library is on two floors and has five large components - a general reading room, and separate sections for social science, language arts, foreign languages, and guidance materials. Therefore, at least four classes can be accommodated at the same time with no conflict for space, and no traffic problem. It may well be that this kind of school library facility encourages greater use of the school library by teachers.

To the same degree that we should re-examine our concepts of high school library design, we must take a fresh look at elementary school libraries. We have evidence from research that elementary school children respond to learning much more readily and to better effect when they have good libraries, and a rich supply of library books in all elementary subjects, surrounding them in classrooms. (See Gertrude Lewis's Educating the More Able Children in Grades Four, Five and Six, and Mary Gaver's Effectiveness of Centralized Library Service in Elementary Schools.) Much work needs to be done by school librarians and elementary teachers in evaluating books and materials and planning for their use in elementary curriculum. At least one conference room in the elementary school library would encourage this important inservice experience. A special room, appropriately designed for children, and/or patio outside the library for storytelling, encourage this important activity for children.

The location of the library in the elementary school may have a strong effect on the use of the library in elementary curriculum. An elementary school in Gary, Indiana, has the library occupy the space normally serving as the center corridor. Wide arches from this library open into the fourth, fifth and sixth grade classrooms, so that there is a constant flow of elementary pupils from the classrooms to the library, as occasions for use arise. These classrooms have doors on the other side leading to outside the building.

Elementary school libraries, like high school libraries, may include rooms for the use of audio-visual materials, in addition to reading rooms, workrooms and storage space. In many older elementary school buildings, classrooms are being converted to libraries. Before this remodelling takes place, it is important to point out that the library may be used for broader purposes than the individual borrowing of books by pupils. It may not be possible to obtain more space, but such information may prevent the conversion of substandard or basement classrooms, or corners of corridors, to elementary school libraries, and encourage the selection of more functional space. There are possibilities for the use of modern portable school rooms for adaptations as elementary school libraries, or for freeing existing classroom space for elementary school libraries.

Let us turn our attention to the effect of new school design on school libraries. We know that many new schools are only one story high, and spread out over acres of land. In some ways, the old box-like structures with several stories made it convenient for school librarians to visit classrooms, and give individual service to teachers. On the positive side, the finger plan, or campus type of school, provides a unique opportunity to place the school library in a central location for all the instructional areas, leading to and from English, modern language, social studies, art and science classrooms. However obvious this arrangement may be, there are many new schools with the libraries cut off from classrooms by administrative suites, cafeterias and gymnasiums. Here again, school librarians and teachers must inform architects that school libraries are intrinsically a part of instruction and must be related physically to instructional facilities. If I were an architect, and had not been informed of this fact, I would be inclined to place the school library near other general service facilities like administrative units and auditoriums. Some architectural firms like round or octagonal libraries because of their aesthetic appeal. I like them too, for the same reason, but even more because they could be the center of instructional areas, with entrances from departmental suites of classrooms. However, most round or octagonal, or hexagonal school libraries have one, or two exits to corridors, or out-of-doors. If round libraries are favorable in the whole school plant plan to close relationship with instruction, it is possible this design can improve the library's service to curriculum. Again, our decision and planning must be based on function and use.

Many interesting and beautiful aspects of modern school design have caused trouble for school libraries. The extensive use of glass to avoid the claustrophobic atmosphere of traditional schools, and give new schools a feeling of community with the out-of-doors, has cut down drastically on shelving space and introduced serious problems with glare. The use of glass can be modified to provide libraries with both plenty of shelf space and an atmosphere of spaciousness. Now architects are experimenting with windowless schools. Not much research has been done to determine the effect of this plan on teachers and pupils. However, it is probably true that the needs of human beings for proximity to trees and flowers and sky cannot be changed by the use of plant boxes and air conditioning.

In general, the school library should be planned and administered for great flexibility of use by teachers and pupils - all day, every school day, and in some schools, evenings and Saturdays. This use may include:

1. Voluntary use by teachers and pupils. (Many school libraries serve 300-500 pupils daily.)
2. Scheduled classes for particular purposes - class research, reading guidance, guidance in listening and viewing, library instruction.
3. Group use by teachers and pupils, for conferences, projects.
4. Individuals from classes.
5. Use by teachers and pupils of collections of library materials in classrooms, laboratories, study centers, and, of course, home use.

The component parts of school library quarters may be therefore: (1) A reading room with open shelves for books, including paper backs, (2) A room or space for storytelling, (3) Space for carrels, (4) A conference room, or rooms, (5) A library classroom, (6) Listening and viewing areas, or rooms, for groups, and individuals, (7) Space, or a room, for professional materials for teachers and accommodations for seating, (8) A room or space for making materials, (9) A library office, (10) A library workroom, (11) Storage space for periodicals, microfilms, maps, globes, realia, films, tapes, kinescopes, filmstrips, recordings, and possibly textbooks. Some of these areas may be combined. Two conference rooms with a movable wall make a good library classroom when the wall is open, for example.

Once we have acquired, and inspired, vision of the ways our school library facilities can best serve teachers and pupils in teaching and learning, then we should relate standard specifications for seating space, shelving, and all the other components of school library quarters, including equipment, and provide school administrators and architects with the complete picture. Whatever limitations are imposed because of lack of space and funds, let us always remember that the library should be a friendly and attractive place, taking to its heart all the teachers and pupils of our school, and giving them the materials for their own best purposes in education.

STANDARDS FOR PLANNING SCHOOL LIBRARY QUARTERS

by
Nella Bailey

If the schools of today and of the future are to reach their full potential in an improved educational program, it is essential that some attention be given to the library resources. Whatever recommendations for the improvement of schools are made, these can be achieved only when schools have adequate library resources, personnel, and services. This fact holds true for all types of school curricula.

Even though the school library has become recognized as an essential part of a good school program for a number of years, many schools are without school libraries or have inadequate library resources and services. According to a survey by the U. S. Office of Education, Public School Library Statistics, 1958-59, about 50 per cent of a total of 82,222 public schools in the United States were without centralized libraries, and of approximately 34 million public school pupils included in the survey, 31.6 per cent of the pupils attended schools without libraries. The great majority of these pupils were in elementary schools. Of approximately 60,000 elementary schools surveyed, 66 per cent were without centralized libraries which means that over 10 million elementary pupils, or over 51 per cent, were without library service. This report from the U. S. Office of Education points up evidence that there is a marked difference between the new national standards and existing conditions in school libraries.

Since the new ALA school library standards state that "the school library program reflects the philosophy of the school and enriches all parts of its educational program," this statement might become our philosophy in the study of "Design for Progress" which deals with a very important phase of the library, namely, SCHOOL LIBRARY QUARTERS AND EQUIPMENT. This philosphy applies to all types of schools, and is in harmony with the overall objectives of education.

It is not the purpose of this discussion to isolate quarters from the other phases of the library, for rational judgment would indicate that this cannot be done. Yet, while the basic belief is that the most important part of the library program is the work with students and teachers, it is also recognized that inadequate quarters can be, and most often are, a deterent to good library service. In view of this, standards for quarters are discussed simply in light of those activities and services that make the library an educational force in the school.

A look at the National standards should be considered before discussing State standards.

The National standards emphasize the fact that the location of the library, as well as the adequacy of it, the functional lay-out of the various areas for their specific purposes, the addition of special features, and the types of facilities and equipment, have a very direct bearing on the efficiency of operation of the library. This can also be said concerning the possibility of future expansion of the library facilities. "In order that good service may be provided, the library quarters must be easily accessible, large enough for the comfort and convenience of its users." (Standards, page 92.)

Five specific points are stressed in the Standards:

1. The school library is located for maximum accessibility.
    a. It should be convenient to study centers and the center of classroom traffic; or in campus plan schools, centrally located to serve clusters of classrooms.
    b. It should be located some distance from sources of distracting noises.
    c. It should be in an area that does not restrict it for future expansion.
    d. If quarters are not combined with space for audio-visual materials or textbooks, good planning provides that these be located in close proximity to the library.
    e. It should be designed for extended library service, (after school hours and on Saturday). The library quarters should be located conveniently for restricting the use of the building to the library quarters.
2. The space requirements of the school library are determined by the program of the school, size of enrollment, number and types of materials to be housed. Also the library should be functionally arranged.
    a. The area should be large enough to accommodate all students and teachers. As to size of reading room, the seating capacity should provide for 10 per cent of enrollment, for more than 550 students. In terms of supervision and good service, no

more than 100, and preferably no more than 80, should be seated in one reading room. This means that in school with large enrollments, multiple reading rooms or special library areas are needed.

b. Some form of multiple library arrangement for large schools is advisable in elementary as well as for high schools.

c. Adequate space for reading, viewing and listening, as well as classroom and conference space to meet the special needs of students and staff, should be provided.

3. Library quarters need to be flexible. New developments in educational programs, instructional methods, and class groupings, as well as the uses of library resources that accompany them, make it essential for the library quarters to have an element of flexibility.
4. Newly developed equipment that increases the efficiency of the school library's organization and that expands its breadth of service is highly desirable. (T.V. teaching, etc.)
5. The design and arrangement of the library quarters make the library attractive, comfortable and convenient. If the atmosphere is inviting and pleasant, using the library becomes a pleasurable as well as a profitable experience for children and young people.

Another point which is brought out in the National standards is that the library must be ready to function the day that classes start in the new school. This requires careful preparation in advance, which means that the superintendent of schools and the architect have consulted with trained librarians and supervisor of school libraries in the school system, the state supervisor of school libraries and certainly the librarian who is to serve the new school.

For the high school, the State standards for quarters for all libraries are the same as those required in the comprehensive high school. (Quote from: State Standards for Library Service.)

a. When boards of education are planning new buildings they should consult with professional school library personnel for aid in planning satisfactory and attractive quarters for the library. Plans for library quarters and equipment in new school buildings and in remodeled buildings shall be approved by the State

Department of Education.

b. A separate library room or rooms shall be provided. This space shall have a seating capacity sufficient to accommodate 15% of the enrollment at any one time allowing at least twenty-five square feet of floor space per person. In future planning, not more than 100 pupils shall be accommodated in one library room.

c. The library shall be equipped with book shelves, tables, chairs, magazine shelves, vertical file, circulation desk and chair, newspaper rack, bulletin boards, standard card catalog case, and typewriter.

d. A separate workroom with running water and adequate storage facilities for books and non-book materials shall be provided. A separate conference room is highly desirable.

e. In planning new quarters, the library room shall not be combined with a multi-purpose room such as, cafeteria, stage, and auditorium.

In the provisional and emergency school, State regulations say that when the above recommended standards cannot be met, the library room shall be a separate room at least the size of a standard classroom with a work area provided. The point is stressed, however, that the library reading room shall not be combined with a multi-purpose room.

In new buildings for elementary schools the following regulations exist. (Quote from: State Standards for Library Service)

a. In new buildings, the library shall be a separate room large enough to seat a standard classroom unit plus twenty, allowing 25 square feet of floor space per pupil. A separate workroom with running water and adequate space for storage shall be provided.

b. When planning library facilities in new buildings, boards of education, superintendents, and architects should consult with professional school library personnel. Plans for library quarters in new school buildings or in remodeled buildings shall be approved by the State Department of Education.

c. In existing buildings, the centralized elementary library shall be a separate room the size of a standard classroom with a work area provided. New centralized library quarters shall not be combined with a multi-purpose room, such as, cafeteria, stage, and auditorium.

When remodeling library quarters in existing buildings, complications often arise. To take the space as it is and to design a functional library demands all the ingenuity of the architect, librarian, superintendent, principal, and supervisor of school libraries combined. When there is a retaining wall that just cannot be moved, or when there are existing windows which cannot be closed, then it takes great effort to do the best with what we have and to try to plan a room that is functional. At least it can be made attractive by an ingenious librarian. The final plans are not always desirable, but often must be accepted in extreme cases.

All plans for school libraries must come to the Division of Buildings and Grounds in the Department of Education for approval, where the Supervisor of School Libraries reviews them, and makes suggestions and recommendations when needed. In most instances, recommended changes are made but occassionally these suggestions are not always adhered to completely; as a result, library quarters do not always meet State recommendations.

At present, there is nothing in the State standards for library quarters concerning a materials center. A few schools are in the early stages of construction in which materials centers are being included. Many ideas were discussed during the initial planning and some suggestions were offered which seemed to be an improvement over the preliminary drawings. However, it is believed that the suggestions for improvement were not all followed in their entirity. As more schools desire materials centers, and look toward them as essential to good library service, some planning will be done at the State level. But at this point, nothing has been incorporated in State regulations.

Some states have already developed plans for material centers, such as Florida, who now has a bulletin which contains suggested layouts. Other states have also made progress along this line. It is recognized that the U. S.

Office of Education is an excellent source for new ideas and suggestions of various kinds and materials are obtainable from that office as they are developed.

Local school boards and school administrators have the responsibility and also the opportunity of making certain that all schools have adequate and functional library quarters which are prerequisites to good programs of service. Also, State school boards and State administrative officials have a responsibility for seeing that in each school there is a library program that meets recognized standards. If State and National standards for library quarters are to be realized it will be through the leadership of these state and local school officials.

THE ARCHITECTUAL VIEWPOINT

by

Jean D. Farley

At the inception of a proposed new library or a renovated library, one of the very important aspects is selecting the architect. By selecting a capable architect, you will be assisted in securing sound planning that will incorporate the convenience, the comfort, and the distinctive design into a safe and efficiently functioning building. Economy will also result in skilled planning and this is based on proper programing, which I will discuss very shortly. The selection of proper building materials, building equipment, and library equipment is also a must. In an efficiently designed library, the maintenance cost and the operational cost will be cut to a minimum.

The architect is really the client's professional advisor; his job is to work with you in every capacity to see that you get what you need. Thus, to secure the best possible end results, you must do several things. You must pass on to the architect your thoughts, your feelings, and your desires on this room or area, so that he understands exactly what you want. Quite often their is a breakdown in communication between the planner and the architect; quite often the librarian is not even consulted. This is bad. After all, who knows better than you how a library should function and how you want it to work. Try to impress this point all the way through the preliminary planning stage, so that you do have the opportunity to present your views. The architect quite often receives too little information. This is because you may think that he understands your program or he may not be given sufficient information to understand it. Be sure that he understands this information all the way through the planning of the library.

I would like to touch on programing, program requirements, at this time. These are general and do not relate to particular size or use of a library. You know better than anyone else that a library is not just a place to store books; it is a functioning room. This must be remembered all the way through the planning. The architect needs to know how many individuals will be working in the library. I know of one case where the architect was not given the proper program and he designed the library according to size. The result was that three people were needed to manage properly the library whereas the budget had only allocated one person for this space. How many students do you wish to seat? Will the library be put to other use? Will it be used as a study hall or a home room or an audio-visual room? These are the things which are important for the architect to know in the overall planning. Will special study or project rooms be needed adjacent to the library? If they are needed, then windows from the reading room should be installed for visual control.

Will there be special rooms? If an audio-visual room is planned, then provide for the proper drapes for darkening the room. How is the workroom intended to be used? This is the room where the librarian spends a considerable amount of time. It should be designed so that supervision of the reading room can be maintained while work is being accomplished. Will the workroom be used for book mending or repair? If so, provide the facilities for it. Certainly you need adequate storage and cabinet space. Will a separate stack room or dead storage be required? If this is required, then location should be provided adjacent to the workroom, and it probably should be cut off from access by students.

The volume capacity of books to be shelved in the library is also essential. Not only the number of volumes which will be placed in the library at the time it is opened, but also the anticipated capacity. Sometimes, however, there is need to compromise on the future when the budget does not allow for it. Will the library be used for after school use? If so, there are a number of points that should be considered. Special entrances, either direct from the outside or from the school's corridors, should be planned, thus making it possible to close off the school proper to prevent circulation through the main portion. If you have special entrances from the outside, control must be maintained during the school hours to eliminate the use of these doors. If the room will be used at night and it is not air conditioned, then insect screens should be considered. Otherwise, you will have the problem of uninvited insects. If the library is a separate unit as far as outside use at night and you lock the doors leading to the classroom, then special locks will be needed and not the regular classroom locks.

Some consideration should be given to toilet facilities if it is being used as a community library. These facilities could be planned either just for the library or in the main building near to the library where general building circulation can be closed off.

Another factor that is quite important in library planning is the noise aspect from outside sources. Considerable noise will be gained from high speed highways or highways carrying heavy truck traffic. Also, factories will contribute an amount of noise, as well as student activities in the building itself. We have found that one way to cut down on some of the outside noise is to plant trees and shrubs outside the library windows.

One very important aspect to the programing is not to tie the architect down with a definite criteria with which he must work. If a national publication or a national research group should say that a library should be twenty-five feet by sixty feet for a certain number of students, don't tell the architect this is exactly what you want. Give him some flexibility; give him the approximate square footage you need to work toward. Let him work around the general size and general shape rather than an exact figure.

Think of what you will need in the way of storage requirements. There should be generous general storage space. This can either be storage space in a separate room, in the work room, or storage cabinets in the library. Enough space should be provided for large poster boards and the cabinets for these items should be of sufficient strength. Adequate filing cases need to be included. Then, too, a cabinet for the librarian's personal articles is a necessity.

In the workroom, plan for adequate work area surface. Consider using a low maintenance material on the counter top--something similar to laminated plastic, formica, or linoleum. A sink with hot and cold running water certainly should be installed in this room. Also, in the arrangement of the workroom, provide a desk height counter below the view window facing the reading room. A considerable amount of time can be saved and more efficiency gained if the librarian is able to sit and work at this counter while supervising the students.

We like to plan a lot of window area in the library, preferably on the north. When the window sills are held up, small bookcases can be placed under the windows. This, though, is not always possible with the design of the building, particularly in renovations.

At the windows some way of cutting down the light should be provided, either drapes, shades, or venetian blinds. Drapes are better for they give you more flexibility and also add color in the room which you might not be able to obtain by other means. Drapes also have a considerable bearing on acoustics. They work very well in absorbing sound and in keeping the sound from bouncing.

Do not consider the windows as giving sufficient light. Design the lighting to give ample illumination during the darkest period of operation. We now think of proper light being 100 foot candles. In arranging the light fixtures, the rows of lights should run parallel to the outside wall. It is preferable to have each row of lights on a separate switch. You may find that you will need only one row of four or five rows on at certain times during the day. By being able to control them separately you can cut down the glare on the reading matter.

For covering the floor, the resilient type floor should definitely be considered. The resilient types such as asphalt, linoleum, or vinyl asbestos can be used. One thing, though, an asphalt floor does not have as much resistance to indentation as vinyl asbestos or linoleum floor. By indention I mean the pressure exerted, the sinking down into the floor of the little knobs which are being put on the bottoms of chairs. Incidentally, the high heels worn by women are certainly the worst objects that could be put on floors. Cork flooring would be very good for sound absorption and for ease of walking, but maintenance would be high because of the shuffling of furniture. A floor should be of high light reflection as well as easy to maintain.

Consideration should be given to acoustical treatment either on the ceilings or walls. Without acoustical treatment a room can reverberate all over the place. It is desirable to have a library as quiet as possible as far as reverberation problems.

We take heating for granted. We wouldn't think of designing a building and not including proper heating facilities, but we quite often overlook ventilation. Certainly a room with a number of students in it should have forced ventilation. If the budget affords it, then air conditioning should be considered in the library.

The decoration of the library should be to the last detail. Every item in the room should have a purpose. Colorful equipment and furniture should not be included just because it looks good by itself, each piece should relate to each other. The walls, the floors, the ceiling, the drapes, the furniture, the equipment, and even the tack boards should fuse. The colors selected for these items should not clash with the overall color scheme. The decoration should also be carried through any view windows, into adjacent rooms, special study rooms, project rooms, workrooms, and even to the corridor if there is a glass partition.

The equipment that is selected for the library should match color schemes of the furniture and the building materials in the building itself. For example, if you have oak one place and birch another and walnut still another, that is going to read bad. Of course, sometimes you have the situation where the architect does not select the furniture and it is put out for competitive bids. Thus, one company may manufacture out of one kind of wood and another a different kind and you end up with various kinds of wood.

The overall scheme of color should be gay but not gaudy. Put a little life into the color of the walls. Also, with the floors you can get a very distinctive floor pattern by using various color tiles. Some thought might be given to planting in the library as well as outside the library. One could even add an outside terrace to the library.

In planning a library, one thing that must be kept in mind is the requirements of the state fire marshall or your local building inspector. If you have a room that has a capacity of fifty or more people, then two separate entrances or exits must be provided for this room. This is sometimes difficult in areas which you are renovating, but we must adhere to the safety rulings.

If the library is being used for community activities and you are not entering it through the school, then two separate entrances must be provided. With the necessary two required exits, there is sometimes a problem of control, but this is a problem primarily in administration. Directions can be indicated for the appropriate entrance and exit, while both doors can be used in an emergency. The check out desk can be planned to have visual control of this area.

We like to avoid the old routine of having nothing but bookshelves all the way around the room's walls. We like to think of most of the books being on bookshelves approximately four feet high which run perpendicular to the main aisle or main circulation area of the reading room. This results in two things. It causes less steps for the library personnel in control and it provides visual control over the tops of the book cases as well as vision down each row of cases.

Flexibility is a very important part of library planning. The low book shelves should not be fastened to the floors, they should be movable. They can be fastened back to back, but they will not fall over with books on them. Run the flooring under any equipment that is movable or might be moved. We all know that one can design a library that is thought to be exactly what is wanted and needed, and that it is going to function just the way we want it to function. But, two months after use has commenced one might wish to change the arrangement. This would be difficult to do if one did not run the flooring under these areas. Also carry the same construction on behind the wall cases. Whether the wall is brick, concrete block, or plaster, complete it behind the cases. I do not say that you need to paint these areas because by the time you want to move it will be a different color anyway. It is easy to paint, but it is difficult to change the building material.

Another consideration should be movable partitions. If your design does not provide special work rooms or project rooms, you might want to provide a flexible system of obtaining these small study area. This can then be accomplished by movable partitions. Certainly if you put in a partition, you would want it to be as soundproof as possible for the group. There are many partitions made that are nearly soundproof or at least soundproof for the average voice. Somewhere around forty to forty-five decibles of sound reduction should be required in these partitions.

You will want to have sufficient tack board spaces. Hardly ever will you find tack boards not being used, no matter how many are installed. Some display can always be found to put on them. Display cases also need to be given some thought. These will be in the library or possibly one can plan one to go through the wall into the corridor. The latter could be a case with sliding glass doors on both sides. Not only can you display items from the library, but you can also display objects from the arts and craft section as well as the shop section.

Ample electrical outlets should be provided. You may not have any intention of using an outlet on a particular wall, but if you needed one there it would be quite difficult to put it in later. As the building goes up or during the renovation of old facilities, it would be very easy to put in any electrical outlets desired.

Considerable study must be given to the various units of library equipment. We need to analyze the exact function of the library and its intended use. Also some consideration should be given to the size of children using the library. On furniture other than library equipment, the architect is in an excellent position to advise the planners on the taking of bids, evaluation of prices, and what is the best buy.

One sure way of becoming aware of the problems in the library is to compare what has been done at other schools to what you plan on doing. This entails visits to these places and talks with those who planned the library situation. Here you will receive a wide feeling in personal views by discovering what they like and dislike about the functioning of their situation.

The arrangement of the subject matter in the library is very important. The amount of different types of material, as passed on to the architect by the librarian, will necessitate space arrangement in relationship to each other. A good example is microfilmed material which can save a tremendous amount of space.

If the library might be used for television instruction, then special consideration must be given this point. Will the library be used as a community meeting room? If so, then the availability of extra chairs should be kept in mind--having them in a storage room adjacent to the library, or having them brought to the library prior to the community meeting. In smaller schools, the library may be used only to supplement the books which are in the classroom. If this is the case, then maybe an actual workroom in itself is not needed. But, this goes back to how will the library be used.

I do not want to take issue with round schools because there can be a lot of problems, but don't rule out anything but a square or a rectangular building. For example, we put a bay window in a new library. This bay window was very large and added a tremendous amount of feeling in the room. If we had just squared it off, it would not have been near so desirable in atmosphere.

This then goes back to not pinning the architect down with an exact size or shape. Let him work in generalities. No one really knows how a library functions better than the librarian. An architect may design many libraries, but it doesn't mean that he knows all the functions of the library. Pass your views on to him and he will help you secure a better plan.

INTERIOR DECORATION - VIEWS FROM LIBRARIANS

ONE VIEW

by

Glynn H. Chesnut

In considering the interior decoration of the library we tend to think first of the color or colors to be used. Since lighting and color are so closely associated we need to remember that walls should reflect fifty percent to sixty percent of the light falling on them and ceilings should have reflection properties of at least eighty percent. Bone white is highly recommended for the ceilings and the following are suggestions for the walls: blue-greens, greyed-blue, soft greens, silver grey, peach, apricot, light rose, beige, and coral.

By use of contrasting colors a monotonous effect can be avoided. It is not necessary for the walls in the reading room, conference room, and other areas to be the same color but the effect should be harmonious and pleasing when the doors are open. It is well to bear in mind that light colors make a room appear larger and dark ones

ones give the opposite effect.

Through color research in industry we know that color properly used can be a "psychological pick-up"--soothing to the nerves, lessening fatigue, and aiding in creating an atmosphere conducive to the profitable use of the library and its resources.

This past year we had the opportunity to redecorate one of the older school libraries in the city. For economical reasons we were limited to only one coat of paint to cover the old surfaces, so the color chosen could not be too light.

The wooden book shelves were already a dark green causing us to choose a soft green for the walls to harmonize with the shelving. Contrasting colors were supplied by pictures, picture frames and bulletin boards.

This brings us to other factors to be considered in decoration of libraries. All components of the library contribute to the general over-all picture--the floors, walls, lights, furniture, books, posters, plants, curtains.

Books in themselves are quite decorative--both as they appear in their logical order on the shelves and as they are placed on display on tables, shelves and window sills. Their jackets are valuable in the making of colorful bulletin boards.

Picture frames may be purchased with tabs on the back to aid in the "quick-change" in pictures. Excellent art reproductions are available and besides being decorative they can be helpful in art appreciation. Globes and maps serve a similar purpose.

Plants and flowers, both real and artificial, can be quite an asset. Bright cushions in the browsing area add a cheerful note and with ingenuity and a can of paint, stools and benches can be transformed and become useful as well as ornamental.

Finally, we must not forget that the library is not a showplace. We wish to avoid clutter and garishness. A few good items changed frequently may be used to create pleasing effects. Simplicity is the keynote.

INTERIOR DECORATION - VIEWS FROM LIBRARIANS
ANOTHER VIEW
by
Rosa F. Green

Color is an integral part of decorating and the blending of appropriate colors and the principles of good decorating apply equally well whether one is decorating a library or a home. Color charts procurable from paint dealers show the relationships of various colors and guide the amateur in the choice and correct selection of tasteful colors. Many of the newer libraries are using two blending colors for the walls, having the two opposite walls in the same shade. Blending drapes are very effective and lend a softening effect where used. They can reduce barn-like proportions of oversized rooms and otherwise lend a homey touch. They can be used equally well in the work room and conference and are just as attractive when drawn so as to allow the librarian unrestricted vision.

Drab colors should be avoided. Books that need rebinding, the unattractive sameness of sets and the textbook look should be exchewed in favor of the gay and colorful. Shelf labels, signs and book ends can be attractive. The new plastic book ends coming in a variety of gay colors add life and vitality to the shelves.

Workrooms can be as decorative and inviting as the modern kitchen with its sink in a counter top, easily cleaned formica counters and closed cabinets for the storage of all the necessary accoutrements of book mending, lettering, and shallacing.

Pictures add to the decorative as well as to the artistic quality of the library. Framed historical documents (procurable from the Superitendent of Documents) can be very effective. Famous battle scenes done in color, framed alike and hung at an appropriate level can add life and action. These likewise can be ordered from the Superintendent of Documents. Avoid friezes and murals--their permanency leads to their being ignored and after a while unseen. Favor, rather, the type of decoration that can be changed from time to time.

A local new high school library is a very inviting place with opposite walls done in shades of a soft blue-green and yellow-green. The ceiling is white acoustical tile and the flooring a gray and white tile. Floor length draperies in a multi-stripe material blending with other colors used in the room frame a broad expanse of windows. Contour chairs in colors of orange, yellow, blue, and green are grouped around rectangular and round tables adding a pleasing variety. Florescent lighting is used. An attractive ship model graces the card catalog cabinet and two vigorous splitleaf philodendrons add their welcoming touch at the two entering doors. The adjustable shelving is a medium gray with a distinctive and unusual blue stain. A display case is built into the wall outside the library doors. A combination of wall and free standing shelving sets off a lounge area for the fiction and magazine reader.

In our library we also have an attractive lounge area with comfortable overstuffed furniture, a coffee table with planter and shelving for magazines, newspapers, and a browsing collection of attractive titles.

We have had effective displays done by various classes such as dioramas of book characters, science exhibits of all kinds, and model rooms done by the homemaking classes. At Christmas time we go all out with decorations in the spirit of the season. Likewise, appropriate holiday material is displayed at other times during the year. With some of our children this is the only bit of holiday they have to enjoy.

Attractive, growing, healthy plants can do wonders for any room. The top of the card catalog cabinet, high book shelves, lonesome looking corners, drab spots can all be enlivened with a green plant. Philodendron, ivy, pothos, and others are easy to grow and do well with a minimum of light. Teachers and students alike will be glad to present their plants, often grown too large during the summer months to be accomodated in the house for winter care and protection. Bulbs can be forced at appropriate times of the year. The average ten-cent store or supermarket will afford inexpensive greenery for decorative purposes. African violets flourish under florescent light as do a variety of other plants. Terrariums and aquariums also add their bit of decoration. A student assistant will be delighted to take over the watering chores and the response of students to this bit of beauty in their lives is rewarding enough. In closing, I adjure you to go all out to make the library the most attractive and inviting room in the entire school layout.

WALL TO WALL - FLOOR COVERINGS FOR THE LIBRARY

by

John J. Unangst

Floor coverings have changed a great deal in the last few years. During the war about the only thing you could get was asphalt tile which was not very good from any point of view except that it was better than concrete. Today there are more types of floor coverings and there are more manufacturers making floor coverings than ever before. In addition to obtaining floor coverings which are practical, you now have the choice of floor coverings which are more and more colorful and something that will make your library look more attractive as well as more conducive to study.

In selecting floor coverings, the first thing we recommend you to do is always deal through a reputable firm. It is always good to deal with somebody who has been in business for a while and knows what he is talking about. Then, we also recommend that you buy from a company which has a good brand name.

It would be rather difficult to state that there is one floor for every library or every room in a library suite that you plan. I think the best that we can do is to evaluate the different types of floors that are available for libraries and see how they rate in some of the different aspects. In this way you will be able to judge probably what you can use for your specific needs in the library.

We can consider the comparative desirability of floor coverings from the point of view of underfoot comfort, relative quietness, durability, grease resistance, and ease of maintenance. Now to give you an idea of the various ratings for these points, we can consider a range of one to seven points. One would be your best rating; seven we could say to be the worst.

I am sure that everyone is familiar with cork which has been around a long time and has, of course, a lot of wonderful characteristics. With cork the main advantage is that in resilience it provides the best underfoot comfort and the quietness which is wanted in a library. Now a lot of people believe that this is the most important aspect for a library where people are walking around, since they believe that quietness should receive greater consideration. But in durability it rates five. If you would have cork in a place like Grand Central Station, durability would be a very bad prospect, with people constantly tracking grit across it. When using cork to obtain quietness and underfoot comfort, you lose something in durability. Now this does not mean that the floor will be ruined in a year or two years. The Armstrong Library in Lancaster has cork flooring which has been down for at least seven years; it looks beautiful because it is properly maintained. That is another point to consider with all the floor coverings. If it is properly maintained, you will have a floor that will last longer and that will look better. Cork, being porous, would certainly not have as good a rating in your grease resistance, which is four, as you would have in relative quietness. For ease of maintenance, one would rank it five because of the porous effect. So you see the advantages and disadvantages have to be remembered in the light of what you are looking for. I think that cork in a library is probably your best flooring because of the quietness which you get underfoot. If it is maintained properly and not used right in the entrance where you get most of your dirt, it will give you a very fine floor.

Rubber tile has been around for about fifty years and the added color line in rubber tile has given it a new effect. Now, rubber tile ranks fairly well with cork in your underfoot comfort, the rating is two. It is not quite as good as cork, but it is not as bad as asphalt tile, as we will see. In relative quietness rubber tile ranks two on the list, which is high. In durability, it has an advantage over cork and rates a two. Grease resistance on present-day rubber tile has been considerably improved as compared to the old type of rubber tile. Rubber tile today contains more synthetics than actual rubber, so due to this content the grease resistance has been greatly alleviated. The fact is that now you could even put this in a residential kitchen where at one time you couldn't. But, for dirt getting into it, it gets only a three rating. For ease of maintenance, it also ranks three. In rubber tile then, you have something that is fairly well rated. It is not the best, but it is by far not the worst. It is an exceptional good buy on the market today. Again I will caution the use of a brand name type of rubber tile, for there are many different manufacturers who make a variance of rubber tile.

Now, the next floor covering to be considered is linoleum. In one public library, they had linoleum on the floor for twenty-seven years and when they decided to remodel they just went to a different color of linoleum. This flooring has also been around for at least fifty years, which shows that it must have some good characteristics. In underfoot comfort, it is a little higher than your rubber--it ranks four, the same as for quietness. Usually underfoot comfort and relative quietness form the same pattern. The durability of linoleum is one; grease resistance gets a number two rating. This flooring is excellent for any type of grease which might be tracked in over the floor. In ease of maintenance, it forms the same pattern as rubber tile--a rating of three. Linoleum comes in sheets six feet long, so you do not have as many seams as other types of floor coverings. Some people feel that this is an advantage because you do not have dirt getting into the seams. I think, however, that the most important aspect of floor covering is your quietness and your underfoot comfort, rather than your durability. This durability, though, is important if you want ease of maintenance.

Linotile is a form of linoleum which is cured for about ninety days longer than linoleum, making it a much harder type of tile. This floor covering is a little more solid and not as porous as cork, thus having a rating of four as far as your underfoot comfort is concerned. It would be, though, a little more noisy which gives it a rating of four. In durability, grease resistance, and even maintenance, this is the finest floor there is. This flooring has been in the restaurant of the Merchandise Mart in Chicago for over twenty years. It's lasting effect has been proven by not having to be redone. Now, in your decisions on floor coverings, you can put this type in the entrance where the greatest traffic is and then put cork in another area of the library. This is something which can be considered. You do not have to put the same flooring throughout the entire areas of the library. This is the floor that will give you years of good wear. The bad point, however, is that it doesn't rank too well in quietness and underfoot comfort.

There are about thirty to forty types of custom corlon vinyl tile on the market today. Here again I wish to suggest the use of brand names when you discuss flooring with your architect; I think that you can't go wrong in this matter if you consider that you might lose out on the long run when you deal with an unreliable company. This vinyl tile ranks two in underfoot comfort; in relative quietness, it also ranks two along with rubber tile. It is second best only to cork. Durability rates a one; in grease resistance, it ranks two; in ease of maintenance, it ranks three. If you want a tile for an all around good rating, custom corlon vinyl tile has the best that you can find. However, cork is probably one of the best floors [illegible] for a library. In spite of its limitations, it does have more good advantages.

Vinyl asbestos is a very popular floor when considering use in commercial areas. It gives one a lot for ones money, but when evaluated in library flooring it ranks six for both quietness and underfoot comfort. The durability rating is two. Grease resistance also rates two as well as ease of maintenance. Vinyl asbestos is a good floor for the right area, but it is not good for a library because of the noise that comes from something as hard as this.

To obtain a perspective of what we call a necessary evil in the floor covering business is to look at asphalt tile. It is not very pretty. It ranks seven in underfoot comfort, six in relative quietness, three in durability, five in grease resistance, and four in ease of maintenance. So, this tile is not too good; I wouldn't use it.

Thus, you have a variety of floor coverings which you can use in the library. This is what makes it harder to select the proper one. If the decision could be made "yes" or "no," we would all make the right decision by benefiting from those who made the wrong decision. But, different types of flooring have different advantages, and it is up to the planners to decide what is the most important aspect.

Floor covering materials naturally vary in price. Cork will go in for sixty to seventy cents a square foot; rubber tile costs sixty-five to seventy-five cents a square foot. Linoleum, which comes in sheets of six feet, is priced at fifty cents a square foot. Linotile is expensive at seventy-five to eighty cents a foot, but the most expensive is custom corlon vinyl tile which is ninety-five cents a square foot. Vinyl asbestos is cheap at forty-five cents per square foot, while asphalt tile, with all its disadvantages is of course the cheapest and costs from twenty-five to thirty cents per square foot.

One thing which you must consider in putting down the floor covering is the initial overall cost. Nowadays, if you have to replace a floor too soon, you will find out that your labor cost will be just as much for an inexpensive or cheap floor as for a better type floor. Actually, then, the difference you pay initially is in material rather than in labor.

Basically, we consider it important to have the right material installed the proper way and maintained properly. Maintenance, of course, is of great importance. You can have the finest floor that any company can put down, but if it is not maintained, it will be ruined.

APPLICATIONS OF SOUND CONDITIONING

by

Robert L. Price

Sound conditioning plays a rather important part in the design and construction of a library. In fact, it is one of the essential items of equipment because when properly designed it makes your role as librarian more efficient and more effective. It creates an atmosphere that is proper according to the intended use of the room.

First, let me briefly discuss a few pertinent facts about sound. Sound is kinetic energy and travels in a straight line like a beam of light. It will continue to travel in that straight line until it strikes a barrier and is reflected. The angle of reflection is usually ninety degrees to the surface and the volume of that reflection is relative to the mass and the bearer of the surface that it strikes. For example, a hard shiny surface will reflect sound efficiency the same as a beam of light without dissipating the energy involved in the sound wave. However, a soft, dull surface will reflect less because a great deal of the energy dissipates in penetration or absorption.

Actually, sound is a very wonderful power. We use it for communication, we enjoy and thrill to it in the form of music. We even appreciate it as a warning of approaching danger and we benefit from it by the use of the sonar drills for painless drilling of our teeth.

The power of sound, however, creates the power of noise. Noise can best be defined as sound without meaning--a hodgepodge of sounds that the ear dislikes. It causes irritation to our nerves and our disposition. Noise does not necessarily have to be loud or disagreeable sounds; it can be sounds that your ear cannot hear plainly and clearly. If I would speak to you in a large, stainless steel tank composed of many multiple-angled surfaces which would be hard and shiny, the sound would reflect. My voice would have many overtones and the reverberation cycle would be completely without control. You would find yourselves trying to separate each word. It would be impossible; you would have an overlapping. When the human ear is subjected to hearing these overlapping sounds, it rebels. Hence, the importance of close control against the reverberation is of great necessity. A soft sound of thirty or forty decibels that is heard several times simultaneously is very irritating. Yet, a tremendously loud sound of eighty or ninety decibels that is heard clearly and distinctly will not irritate the ear, if it is not subjected to it at too long a time.

To treat a room properly for correct acoustics, we first consider the size, the shape, and the volume of the room. Then we determine accurately the absorption qualities of the existing surfaces, that is, the room, the floor, the ceiling, and the walls. Next, we compute the absorption qualities of everything which will go into that room--furniture, drapes, carpets, people. We, then, know accurately how many absorption units are in that room naturally.

Now, comes the most important step in our planning. We must know the purpose for which the room is designed and only at this point can we proceed properly to treat the room to achieve the correct results that are desired. For example, in treating an auditorium, we must consider the sound absorption of every seat, as well as whether the seats are wood or upholstered, of each yard of carpet, of the anticipated occupants, of the structure of walls, ceiling, and floor, and, of course, of the size and volume. We do not desire to dissipate the energy of the sound quickly. What we work for is purity of sound. In other words, we try to control closely the reverberation cycle. We want the ear to hear the sound that strikes it clearly and with sufficient volume to interpret the sound.

Classrooms are somewhat similar to an auditorium except that they require a bit more absorption due to a generally higher noise level brought on by the children moving about plus outside noises filtering in through larger window areas. Also, the teacher is fairly close to the students in the rear of the room and the sound does not have to travel as far as it does in an auditorium.

As for a gymnasium, I am convinced that no one will ever overtreat it. The average gymnasium has a glossy wooden floor, wooden benches, glazed tile walls, large glass areas, and usually several hundred of very enthusiastic supporters who are rooting for the home team. This is always a challenge to the acoustical industry. We are hoping that some day someone will invent a super absorber to take care of the gymnasium.

I have purposely wandered from my subject of treating libraries because I wanted to stress the importance of the term "use of the room." This is very important. Libraries are almost always areas where there is a constantly changing variable quantity of people. They go there to read, to study, and to concentrate. They certainly cannot achieve this goal if they are to be distracted by sounds which are not pertinent to the purpose for being in that room.

Initially, we should try to find out what types of sound are most distracting in a library. I would say that one would be footsteps. Another would be noises which arouse curiosity, such as moving or talking and even outside traffic. Next is the human voice--loud talking or laughter. Another is a chair scraping back from a table. It is unexpected, it startles one. The point is this: sounds which are not expected in the library are distracting, sounds which are expected do not distract one. When thinking in terms of properly treating a library, we try to ward against these distracting sounds, and since much voice communication is not particularly necessary, we can afford to hold the voice level in the room to a low point.

By proper planning we can build a sound treatment to safeguard against the unexpected. In my opinion, the desirable method would be to carpet the floor, drape the windows with heavy material, and install acoustical tile over the entire ceiling as well as down each wall to at least two feet. The purpose of this is to catch the reflected energy that will still reflect off the acoustical ceiling at a right angle along the top of the wall and dissipate it before it comes back into the room. Enclose the telephone in a booth, and arrange book shelves, if possible, in a staggered way so that you break up the directional travel of your sound waves. Sometimes, however, we cannot have all of the above, so we have to substitute. If carpet is out of the question, choose a floor tile that is soft, such as cork or rubber. Put smooth chrome-plated glide buttons on the legs of the chairs to eliminate the scrapping and raucous sound resulting from a chair being pushed back. If your windows cannot be draped, and if this is in preconstruction planning, try to recess your windows in the wall. This breaks up a lot of the bounce of sound on the glass by trapping it in the recess. If you have to make up for the loss of carpet and draperies, you can add more acoustical tile on the wall. This is recommended not only to add units of absorption but to add to directional control, which one works for, of the reflected sound energy.

If outside noise is a big factor, you can add tightly-fitted storm windows. If sound is coming in from adjoining corridors, equip the doors with a weather stripping such as a vinyl gasket at the thresholds. Put an additional vinyl gasket around the jam strip of the door, so that when the door is closed you have stopped the transfer of air as much as possible. Doors are big offenders for sound entering a room and it takes a very small opening to let in a lot of sound.

Sound transmission is a problem. This is sound coming through a wall from another area. Only mass or density of material can stop this. Sometimes it is necessary to build a second wall. For this, one must use a high density material with great mass. Above all, do not nail the new wall to the old wall; your nails are stethoscopes and they will bring sound right through your new wall. Try to isolate the sound. This can be done economically even though you have a bad situation. You can put acoustical tile on the wall, but it will not stop the transmission of sound because tile only absorbs noise.

Now, I would like to point out one of the phenomenon on sound conditioning that applies very much to libraries. When an area is treated rather heavily and the over all noise level of that room is low, you suddenly will be hearing sounds of which you are not aware, sounds which you don't normally hear, and they become distracting. One of these is whispering. Whispering is a sibilant sound which is distracting because you cannot hear it distinctly. Sometimes an excellent way to overcome these small nagging sounds that are abnormal is to inject just enough sound into the room so that it doesn't disturb operation. Occasionally, we recommend the installation or piping in of music for business offices. This is suggested just to kill the transfer of other voices from one office to another.

A little interesting side light on the subject of sound is total silence. Since we have lived all of our lives in a world filled with sounds, we have adapted to the level that prevails constantly. We only notice the changes that occur from the normal level. Several large corporations which are involved in electronic research have built rooms that approach total silence. To enter one of these rooms is a very frightening experience--I have done it once. The ear drum, which is accustomed to a constant assault of sound waves, recoils at the sudden absence of this barrage. It causes one to become confused, it depresses one, and one has the urgent desire to return to the little world of noise which one is used to. If total silence were desirable, do not fear that we would build it in your library for it is impossible. What we try to achieve, however, is to put in the proper amount of treatment to hold the sound level in that room at the level which is conducive to the use of the room.

In closing, I would like to mention briefly some of the advancements in the field of acoustics. There are now acoustical ceilings that distribute heat and air conditioning through the tile, thus eliminating the unsightly and costly air diffusers as well as the dirt from them. With this you obtain a ceiling that will remain perpetually clean. It is also draft free. There are acoustical ceilings that will heat and cool by radiation. Acoustical ceilings that are completely different from the usual tile of which you are accustomed to seeing are also available. These can be appropriatedly spaced around a room in a minimum application to give purity of sound without muffling. Then, too, new prefabricated sound bafflers that are very efficient are available. There are new plastic foam wall coverings that are only a quarter of an inch thick. They are very decorative and, even though they are thin, their efficiency is high. Since the wall area is the biggest area in the room, one can certainly provide a great deal of sound treatment with it. So you see that the field of acoustical treatment is developing rapidly. Many new products and systems are constantly being explored.

ENVIRONMENTAL CONTROL OF LIBRARY AREAS

by

Richard E. Haskins

Most people think of air conditioning only as cool air in the summer. Actually, air conditioning encompasses a much broader spectrum. The American Society of Heating, Refrigeration, and Air Conditioning Engineers defines air conditioning as the process of treating air so as to control simultaneously its temperature, humidity, cleanliness, and distribution requirements of the conditioned space. Of course, air conditioning requirements are not the same for the library in an elementary school as they are for the Harvard Rare Book Library. In both instances we must consider the human element, but the thermal environment required to preserve the rare manuscripts is obviously much more critical.

The effect of uncomfortable temperature and humidity conditions on learning efficiency is intangible, but well recognized by all authorities. Many reports indicate that an increase of up to sixty percent, in the amount learned, are recorded when the distracting influences of high heat, clothes damp with perspiration, and the noise from open windows are eliminated. The proper climate for learning is even more important in the library than it is in the classroom.

Generally speaking, young people require cooler temperatures than adults. They work more efficiently at lower temperatures. Cooling, not heating, is every schools main thermal problem.

What causes overheating? Where does the heat come from? Why doesn't the heating and ventilating system prevent this overheating?

It's early in the morning on a typical winter day anywhere in the country. The school heating system is bringing this classroom or library up to a comfortable temperature. As students arrive, an unavoidable change takes place. Let us consider these changes.

1. Artificial lighting adds heat while sunlight enters the library. Artificial lighting is almost invariably needed to supplement natural light to avoid unbalanced lighting and eye strain. (I will comment more on proper balanced lighting later.) It is safe to say

that lights provide one-fourth of the heat required to compensate for room heat losses at an outdorr temperature of thirty-two degrees Fahrenheit. In that the room is already at the proper design temperature, we have started to overheat.

2. Now comes the big offender--solar heat gains. It is a well established fact, through research conducted by the Herman Nelson Division of American Air Filter, that indirect or reflected solar radiation is substantial even on cloudy days and more amazing yet, even in rooms with northern exposures. Starting in 1951, our Company has conducted a series of solar heat gain tests in schools of all types, from Auburn, Maine, in the north, to Southeastern Louisiana College in the south, through all seasons of the year. Relating this heat gain back to a winter day where the outside temperature is at freezing, this heat addition, during the typical school hours, will almost compensate for the conductive or building heat losses. And, the thermometer continues to rise. The students fidget, the librarians are disturbed, and the janitor is called.

3. Unfortunately for all concerned, one other phenomenon has occurred during this trying period. Each student and each librarian emits heat, much in the manner of a small stove. While solar and artificial light gains, called sensible heat, the heat added by humans interjects moisture, latent heat, as well as sensible heat into the room. This moisture causes no problem in the winter, but the sensible heat of students moves the mercury ever upward.

These are cummulative factors that cause most classrooms and libraries to overheat. An outside temperature of forty-two degrees or higher, the heat given off by the students, and lights are sufficient to overheat the typical school room. This is true even if the room was populated at night with no heat from the sun. Since most school rooms are occupied in the daytime, the addition of solar radiation will provide sufficient heat to require cooling of school rooms with an outdoor temperature as low as eight degrees Fahrenheit.

How does the architect and mechanical enginner solve this problem? It is not accomplished by providing perimeter heating and open window ventilation. Unfortunately, this is often the shortsighted solution of a "first cost" school system. To cool and ventilate the room with cold outdoor temperatures, the open window and resultant drafts have long ago become antiquated.

Actually, school rooms require both an adequate heating system and an efficient ventilation cooling system. Here are ten points essential to maintaining a comfortable thermal environment in a school classroom or library.

1. Individual Room Control.
2. Rapid Morning Warm-Up.
3. Good Air Distribution.
4. Quick Response to Thermal Changes.
5. Air Filtration.
6. Quiet Operation.
7. Adequate Ventilation for Air Freshness and Odor Control.
8. Up to 100% of System Total Capacity for Ventilation Cooling.
9. Cold Window Downdraft Control.
10. Flexibility for Building Additions.

In 1917, the Herman Nelson Corporation, now a division of American Air Filter Company, developed the Unit Ventilator. The present day 1962 model has proved the solution to a majority of school thermal environment problems. All ten points mentioned earlier are very adequately covered by the Unit Ventilator. In fact, sixty percent of all classrooms in the schools of the United States are served by Unit Ventilators.

As was stated earlier, cooling is required in the average school room anytime the outside temperature is forty-two degrees or higher. The introduction of outdoor air into the space will provide sufficient cooling only when this air temperature is below sixty degrees. When outdoor temperature is above sixty degrees, the typical classroom needs mechanical air conditioning. The percent of school days when temperature is above sixty degrees Fahrenheit during a standard nine-month term is considerable. Even in the northern cities such as Minneapolis, as much as twenty-five percent of the school days have outdoor temperatures above sixty degrees. You can appreciate the increased cooling requirements as you move south.

Most school authorities are recognizing the need for year-round climate control and an amazing number of schools are now being provided with air conditioning. Our last count showed that we had furnished year-round air conditioning unit ventilators in over 750 school buildings.

I don't want to leave with you the impression that Unit Ventilators are the exclusive and perfect answer to all school library thermal environment control. Actually, in many applications the better design calls for a Central Station System. This is particularly true in such libraries as the Harvard Rare Book Library and the Library of Congress. Here they need a much higher degree of air filtering and a closer control of temperature and humidity for books to completely eliminate any possibility of abrasive dust, mildew, industrial gases, foxing, brittling, or fuzzing.

ASPECTS OF LIGHTING FACILITIES

by
Robert A. Nolan

In relation to the lighting of libraries, it is very pertinent to recall a statement which a doctor once made to me. This comment was that at least twenty-five percent of the young people in this country have some kind of eye defect and that in the age group of fifty or over probably three-fourths of the people have some kind of eye problem. This means, regardless of the figures which I present now, that to compensate for these defects your lighting requirements will have to be boosted, almost doubled, for people with an eye defect to accomplish the same amount of work in the times that someone with normal vision does.

So, in considering lighting of libraries, there are two basic ideas that I believe we had better bring up first, and these are good only at the moment. The first one is the question of foot candles desired at the working height. The Illuminating Engineering Handbook, as recently as 1960, stated that seventy foot candles at working height is ample in a reading area and thirty foot candles in stack areas. Now, this load of candle power in the stack areas could be contested in that according to our present trend it is very difficult to say what will be stack areas and what will be reading areas in five years from now. So, budget permitting, you probably will treat your total library to seventy foot candles if you can. As you know, a foot candle is the amount of light thrown by a candle theoretically held one foot away from a square foot of material. It doesn't sound like very much, but when you hold seventy candles away from a page of a book, it provides very good lighting. These values are being raised year by year. There is even some talk of one hundred foot candles now for the library level. I can remember when you provided fifteen foot candles in classrooms it was considered excellent, but any good school administrator would run you off if you recommended that today. So, libraries are constantly going up in the use of candle power; they won't go down. This is necessary when you think in terms of the material that children and adults are trying to read.

The second item basic in the design of any library is the reflectance of the room surfaces. This is a question of the color, the hardness, and the shine of the surfaces. The recommended room reflectances now are for the ceiling to be in the seventy to ninety percent color range of reflectance, the walls in the fifty to seventy, table tops in the thirty-five to fifty, and the floors in the twenty to fifty. Of course, the higher the number, the more relfectance you will get off of each surface. Naturally, the ceiling is going to be very light and the floor comparatively dark for maintenance. If you can hold to these percentages, you will come up with something that is about an average of fifty percent reflectance in a well designed library.

Whether the floors are of resilient material or terazzo--the latter I am sure you would not be happy with--they can very easily come within this range of reflectance. It is obvious that you would not want a very dark flooring material anyway. So, the higher the light intensity you can get on the floor because of its area content in the library, the better off you will be.

Now, it is basic that color does not cost any money in this lighting system. This is probably the only time you will ever hear one say that something in the library quarters does not cost money; for a light color on a wall does not cost any more than a dark color. In furniture particularly, all one has to do is ask for it in order to obtain a light surface to cut down the contrast between the light reading material and a dark background. This is something which we try to eliminate all through the lighting arrangement.

There are two methods of lighting which are commercially available. One is the incadescent filament, either in a direct light which shines down or an indirect which reflects off the ceiling or some other light surface and then down. Obviously, the indirect is more pleasant, it is also more expensive. There is more current involved in it as well as more wattage. The second is florescent. Within the florescent field, which has been in use for over thirty two years, one can have a surface-mounted fixture or a recessed fixture which fits up in the ceiling. One can have them dropped down on stems or they can be recessed troughers that light indirectly. A basic problem with incadescent as well as florescent lighting is the recessing of fixtures. This is architecturally a nice thing to do and if we try to do it, caution us about it. For, if one recesses the fixtures in a ceiling, all of the light will be directed down and an area of contrast will be created. The ceiling will then be dark since all the light will be shining down, thus the contrast. This contrast definitely means eye strain. All of the lighting should be designed to try to minimize the contrast. So, while architecturally we might talk about recessing fixtures, if we succeed there should be auxiliary lighting in the room, so that this large area will give the best reflectance. Some light must be thrown up to the ceiling in order to get reflectance back off of it.

Incadescent lighting is generally considered less costly for the original installation, but it is more expensive to operate. If you are not concerned with the light bill that will not be a problem. Florescent lighting is less expensive as far as operation and the forty watts of florescent light is much more distributive in light. But, florescent lighting also has some problems, particularly in the library. There is an eight foot fixture that is called a slim line. This glass tube is actually eight feet long and is handy to use, but the eight foot slim line has a ballast hum which is on cycles and this hum is a very distracting noise. The eight foot fixture can be used some places commercially where the noise level does not bother anyone, but in a quiet library, after it has been acoustically treated and quietly air conditioned, that hum is a problem. So, don't use a single eight foot fixture. That doesn't mean, however, that one cannot use two four foot fixtures. One would not be able to tell the difference as far as the light output or the looks of the fixture. But, the thing one does not want to use is the eight foot tube until a future date when improvement eliminates the hum.

Dirt is another thing that needs to be considered. Here I am talking about maintenance and the maintenance staff washing the fixtures. A year's accumulation of dirt on a florescent fixture can lower the output of the foot candles at desk level, where you want it, by at least forty percent. This includes not only the dirt on the light tube, but also on the louver. These should be washed on a regular maintenance schedule because you burn just as much electricity with a dirty fixture as you do with a clean one. Fixtures should also be selected, and this applies to incadescent as well as florescent, for ease of maintenance.

This may seem obvious, but there are probably more fixtures made in florescent especially that when a janitor gets on top of a high ladder and tries to relamp the odds are that the louver will fall on his head before he can relamp it. Check any fixture that you buy to be sure that the louver is a hinged louver, and that it does not take two men to relamp a simple fixture. If it is hinged, the louver will swing down and remain stationary while one man puts new bulbs in the fixture. Be careful to select a type of louver which is designed for a forty-five degree cut off, so that theoretically you cannot look up and see the bare bulb. By the way, do not be tempted, as in commercial and retail stores, to use a florescent fixture that does not have a louver or grill on the bottom of it. This is all right for retail stores for one is not sitting and reading, but in a library your light will shine down on the desk and reflect too much into one's eyes.

A prismatic lens made of plastic is now on the market, so that in case it drops it will not break. This plastic lens, a product of Corning Glass, is very economical and does equal the amount of work of other tubes.

In a new building, how would you want these fixtures arranged; what kind would you like? I would say that if budget was not a problem that you probably would want an overall luminous ceiling which is a dome kind of a plastic grid, a glass grid, or a metal grid with florescent lighting above it, and which extends from one wall to another. Now, lightingwise that is very fine light, but it is rather monotonous. I would think, however, that you would want to include some accents with incadescent spot lights and display lighting. This luminous effect is probably the most expensive lighting that could ever be put in a library.

Let us now consider the individual lighting, and I am going to assume that it will be florescent because I think that you will be guided that way and you should be. One of the very common mistakes is to take a rectangular space and run lighting fixtures lengthwise down the two sides of a room. This, I believe, is based on the theory that if it fails as a library it can always be converted into a bowling alley, and will look pretty much as it should be. This is the worst way aesthetically to treat any room, by running a long line through a narrow room. You will want the lights run through the short dimension of the room. This is much better for you can obtain better distribution from the lights and it will not cost an appreciable amount more. In lighting arrangement, you want to have light coming from more than one source so that it strikes the horizontal plane, which is the one you are really concerned with except in stack areas, from as many angles as possible to make reflectance uniform.

Your light sources can be many places. There is some theory that your artificial lighting should duplicate your day lighting. In other words, if your light comes through the windows your electrical system should be geared so that it throws light in through the windows and makes the same affect at night as during daylight. Of course, to do this is to add plastic sky domes. This, of course, is on the basis of a one floor library. You will have plastic domes over your reading area and place your light source up in it so that at night you have just about the same kind of lighting as daytime. It is more difficult to do this and is a question of whether you want night to look like day. It is more or less an aesthetic consideration.

You want to be rather careful of windows that extend down to the floor. Again, this is a very popular cliche among architects with which we are carried away and we sometimes take the windows down to the floor where they shouldn't be. Your problem then, is going to be the dan- [illegible] ger of reflected light from outside coming from below the eye construction. This causes an uncomfortable situation. Of course, as was said earlier, you have to try to get a fairly uniform light in the room, and try to avoid contrast. Ideally, you should have drapes over large window areas and they should be of a very thin translucent material in order to diffuse the light and to cut down the contrast between the solid wall and the window area.

One item in lighting that is not watched very closely in libraries is the light level throughout the room. Quite often the level of light is adequate in the reading area but the entire room need not be treated that way. There are going to be different activities in the room. Rather than installing a monotonous overall light pattern in a library, it would be better to change the color a bit by putting in some display lighting such as spotlights or floodlights. While your florescent tubes could be in a so-called daylight color, you could use some ambers or light blues or light greens for display areas. Don't be afraid to get a little theatrical on that kind of lighting.

Another item is in terms of noise. When you come into the library, it may be desirable to quiet the students other than by saying "shush." You can accomplish this by walking them through a lobby which is dimly lighted. This planning had a very salutary effect during the days when the radio stations were placed off the lobby of hotels. The people, who came boisterously from the lobby, were made to walk through a dimly lighted small room--ten feet or more--where the lighting was quite low.

There is another problem which you will be fighting which is an economic one. This is, expecially in remodeling, the dropping of fixtures on stems from the ceiling. This will not be liked because of the problem of dusting on top of the fixtures and it will not look as good as when the fixtures are up against the ceiling. There is a mathematical principle involved here for you want the lights as high as possible to eliminate glare. In other words, if you have a twenty foot ceiling, you will want the fixtures up on the ceiling to reduce the glare and contrast in order to obtain better distribution of light. By going up from an eight and a half foot mounting height above the floor to a sixteen foot height, the measurable glare will be reduced by at least thirty-five percent. At the same time that you do this, you will be dropping the seventy foot candle power which you obtain on the desk to about twenty-five candles. So, let us be kind in our criticism of some of the older libraries where they have dropped down from these beautifully vaulted ceilings and have placed a lot of florescent lights down low. They didn't want to do this, they had to in order to get the light reflectance down. Thus, you are constantly caught between balance. If your ceiling is very high, you just cannot afford to mount your fixtures on it.

Unless you are planning a new library, your main problem will be the question of maintenance of the existing fixtures. Also, if your existing lighting level is too low, you can check the system. Most of the incadescent fixtures are wired to take a three hundred watt bulb, and probably will take a five hundred watt--the socket is the same. If, however, the fixtures take a seven hundred and fifty watt bulb, you can step the wattage up to a thousand, wiring permitting.

Watch the colors that you used in the room--you will be repainting constantly. Watch the light reflectance not only on the table tops, but also in display areas and stack areas. Keep them all in a light finish and you will do a lot better as far as making do with the present amount of light.

Basically, the problem is going to be money--it always is. You are going to have to compromise between what you want and what you can afford. I think that if you are reasonable in your requests, you will come fairly close to getting what you want. Educate the library planners what should be in a library.

LIBRARY FURNITURE

by

Henry J. Willenbrink, Jr.

On many occasions I am asked the question, "If you had a limited budget and had to furnish a library, just what would you look for in selecting the library equipment?" It is difficult to give a pat answer to this question because I find few libraries that have identical situations. The plans and purchases should be adapted to meet its present and future programs and only after these programs are considered can proper consideration be given to the equipment required to fill the needs. After outlining my library program I would approach the purchase of equipment by keeping several basic points of consideration in mind. These are: (1) the use for which the equipment is intended, (2) the life expectancy of the equipment, (3) the quality of both materials and construction, (4) flexibility of the equipment, (5) the design of the equipment.

Let us explore these points to some degree.

1. The use for which the equipment is intended. The use requirements of libraries vary considerably, a school library is different than a public library; a grade school library differs from a university library; and a corporate technical library has entirely different requirements. These differences largely determine table sizes and heights, chair dimensions, shelving heights and depths, card catalogue case requirements, and even charging desk and charge out requirements. This usage of equipment should be kept in mind when considering the other factors as it is this use and abuse of equipment that emphasizes the mistakes made during this planning stage.

2. The life expectancy of the equipment. Often, too little thought is given to how long the equipment will last under the service intended for it. Since purchases of library equipment are generally made from allotted funds, every dollar spent should be judged against the number of years you intend it to last and how much it will cost during this period to keep it in service. A corporate business may purchase its' equipment and then deduct the purchase price from income over a period of years thereby saving taxes. Since profits and taxes are generally unknown in libraries this form of subsidy is not available and equipment is seldom thought of as expendable or "depreciated." For this reason it is of utmost importance for a library to plan its equipment purchases to last longer and withstand better the trial of hard usage.

By a thorough investigation into the manufacturers background and a close look into how installations of their equipment have provided service under years of use you may gain some valuable information. Far too many vendors are interested only in making a profit on your order today with little or no regard to your problems in the future. Many I believe are working and selling under the philosophy of "planned obsolescence." Twenty-five to fifty years of hard use is often expected of library equipment and it is best to investigate thoroughly the reputation and integrity of the manufacturer for delivering equipment that will last. Extreme caution should be taken when a manufacturer or vendor cannot or will not provide you with the names of many installations where their equipment has been in use for ten, twenty, or thirty years. Do not be satisfied with a quick check of a few installations, remember you are investing your libraries funds not only for today but also for many years to come, invest these funds wisely for you may be judged with the equipment, particularly as future librarians must divert funds to repair or replace equipment that does not last.

3. The quality of materials and construction. Quality is one of the most important features that I would consider in purchasing equipment. It is the quality of raw materials, workmanship, finish, and the quality of installation work that determines how well your equipment holds up under hard use; library equipment is painfully expensive to replace and maintenance costs tremendously increase after a few years. What may appear to have been a good purchase today because of low price can soon turn into a costly mistake as finishes deteriorate, tops warp or buckle, legs work loose, or chairs splinter and come apart. The false economy of saving ten percent or even twenty percent or more on the initial purchase only to have the equipment rapidly deteriorate strikes a mean and costly blow and generally hits at a time when budgets do not provide for replacement purchases. As prices increase, the few dollars saved is small consolation for the poor quality received.

In judging quality, three areas--raw materials, workmanship, finish--might be examined where the manufacturer may sacrifice quality at your expense. Since most library equipment is constructed of wood, let us consider wood equipment construction in some detail and a similar yardstick may be applied to steel equipment.

a. Raw materials, wood. The wood used in the construction of your equipment is the foundation on which your equipment is based. Look at it closely. Soft woods are impractical because of their basic nature. Of the hardwood, three different species are most commonly used for library furniture; these are birch, maple, and oak. Most of you will agree that warped and sagging shelves, bruised and dented tops, splintered legs, splitting parts, and loose or wobbly equipment is far from desirable, and one should give thought to the wood used regarding its merits in stiffness, rigidity, shock resistance, resistance to splitting and splintering, and hardness.

Yellow birch has from seven to thirty-eight percent better qualities on these grounds than the best of the maples and a greater advantage over oak because of its coarse grain. To my knowledge, only one manufacturer of library equipment uses yellow birch in its equipment, the reason being that year in and year out it costs just about fifty percent more on the wholesale lumber market than does the most acceptable species of maple. One other manufacturer states in their catalogue and specifications that they use northern hard rock maple which proves to be the next most acceptable wood under these tests. These tests, I might add, were conducted by the U.S. Department of Agriculture, and are not any manufacturers claims.

Several manufacturers specifications state that their equipment is made of maple only. (At this point I would like to quote from the U.S. Department of Agriculture Forest Product Handbook, page 28. "Of the thirteen species of maple that grow in the United States, sugar maple (acer saccharum) and black maple (acer nigrum), jointly classed as hard maple, are by far the most important as well as the most abundant. Others of commercial importance are silver (acer saccharinum) and red (acer rubrum) which are commonly called soft maple, and bigleaf or Oregon maple (acer macrophyllum) which belong to the soft maple group on the basis of its properties." Actually when the manufacturer states only that maple is used he is generally using the soft maples of questionable qualities because of their low price and general acceptance by buyers who are not familiar with the vast differences in these woods. Very few manufacturers of library equipment continue to use oak because experience has shown that its coarse grain splinters and splits more readily than the finer grain birch and maple.

Inferior quality of the raw materials can be camouflaged by heavy staining or finishing. Beware of what such equipment may look like after several years of changing temperatures and humidity conditions.

b. Workmanship. Many areas of inferior workmanship may be completely hidden at the time of purchase and delivery such as the type of glues used, gluing methods, moisture content of the wood and drying methods, and joinery techniques. No one expects to subject their library equipment to floods or fires, but they do happen, and in many cases just an accident can set off a sprinkler system and it is then most important to you if the glues are waterproof and have been properly applied. Look closely at such factors as: (1)How poorly fitted are the shelves? (2)How are the table legs securred? Beware of wood screws to work loose; make certain fastenings cannot work loose. (3)Are the drawers closely fitted and interchangeable? (4)Are the corners of drawers dovetailed? If so, are cracks and excess glue noticeable? What types of joinery are used? (5)Are saw or mill marks visible? (6) Are the surfaces smooth or do they show waves or indentations?

c. Finish. The finish is applied to your equipment to reduce the absorbtion of moisture which in turn causes shrinking, swelling, and warping, to protect against decay and insect attacks, to absorb wear, and to make the equipment attractive. Numerous different finishes can be used on your equipment such as varnish, shellac, rubbed oil, lacquer, or the newer resinous finishes recently introduced.

A good varnish has always been an excellent finish but is seldom used today because it must be applied by brush and dries slowly. Cost of application limits it to fewer commercial products. It is also damaged by water, stains, and abrasion. Shellac is poor in wearing qualities, highly succeptible to damage by stains and will not hold up well in hard use. Rubbed oil finishes have no surface protection for the wood since it penetrates into the wood. It requires repeated application of additional oil and rubbing to retain its beauty, and is highly succeptible to stains and moisture since it does not close the pores of the wood. Most important is that the oil will "bleed" book bindings. A lacquer finish is by far the most frequently encountered because it can be economically sprayed onto the equipment, it dries quickly at room temperature, and it gives a nice looking surface. It is however, highly succeptible to damage by stains, discolors, and deteriorates when in contact with synthetic rubber, water, ball point pens, and inks, and lipsticks and fingernail polish will penetrate right through this finish. The resinous finishes are by far the most durable finishes encountered. They are resistant to all such stains mentioned, lacquer thinner, alcohol water, and strong detergents may be freely used to remove all traces of stains without fear of damage. To properly cure this type of finish it should be baked for over an hour which not only hardens it but gives it extreme qualities of elasticity and abrasion resistance. This baking however requires a tremendous oven which is expensive and is slower than air drying. One manufacturer only is supplying this quality finish under the trade name of permaseal.

4. Flexibility of equipment. Libraries are constantly expanding. The future years will bring even greater expansion so when planning your equipment, look for ease and simplicity of expansion. Shelving, charging desks, and all related items should incorporate as many standard component parts as possible to allow interchangeability and flexibility as future plans may dictate. Units should allow complete freedom for re-arrangement either in whole or in part. Shelving is one place where this flexibility is often sacrificed to the detriment of the library. Shelving built into the walls is extremely expensive to move or alter. It is generally of inferior quality, since the contractor who builds it seldom has the equipment or facilities to make shelving comparable to equipment manufacturers.

When built-in shelving is disassembled, all that generally remains is a pile of lumber. The cost of disassembly and re-erection is often more than new shelving would cost because of the nails and screws that hamper workmen. Charging desks should have sections that may be taken apart and re-arranged as your library expands. The advantage of having sectional desk tops that may be removed means big savings as requirements change and you need more tray capacity for book cards, more drawer capacity, or you incorporate a charging machine into your desk operation. Charging desks that are built in seldom have the flexibility and generally are not of the quality as supplied by a manufacturer who specializes in building equipment specifically designed to meet your library needs. A carpenter or contractor seldom has any idea what a book card is, much less its size, and how it is used and filed, and can hardly be expected to supply equipment meeting all your requirements.

5. Design of the equipment. Design of a product for library use should incorporate as many of the features desired by the interior decorator as the budget and practicality will allow. We do want the library to be attractive and inviting and, in most instances, attractive colors and good design cost no more and will enhance the area immensely. In addition to design for appearances sake, the design should be functional. A library reading chair for instance is intended to be used entirely different than an occasional chair and should incorporate good posture features for comfort over prolonged reading periods. A sloping back may be fine for occasional use but does not give support when you are studying at a table. Chairs of certain designs will in-

vite inattention or drowsiness, others will induce restlessness and squirming. The design of your equipment should be governed by your intended use as well as attractiveness and each should be weighed accordingly. Remember that a nice looking item that does not fill your needs is only taking up valuable space and should then be judged as an ornament and not as an item of functional equipment.

A final and most important consideration in purchasing library equipment would be the selection of the individual or concern with whom one places an order. No guarantee or warranty is any better than the people who back it up, a verbal or written guarantee is of little use to you if you cannot get satisfactory action when troubles arise. A manufacturer may have a good guarantee policy but may never know of your problem with their equipment because the local vendor never takes the trouble to properly advise them. Know your salesman, know your manufacturers reputation, they are very important to you.

DEVICES, CONTRIVANCES, APPLIANCES

by

Louise Galloway

I looked up the words of the title of my talk in the dictionary and it became worse and worse. In explaining a word, each word kept repeating itself. Gadget means a small and novel device, therefore, a synonym for device and contraption is a clumsy contrivance, and then such words as implement, instrument, and utensil appeared. Each of the definitions and some of the synonyms seemed to carry with them a somewhat derogatory connotation. Such is not or should not be the case.

Too often we dismiss the kinds of things I am going to talk about as gadgetry. At its worst it perhaps can be; at its best it deals in the realm of ideas. As librarians, I think we should be concerned with ideas regardless of the format. It is quite unfair to take the best in printed material and compare it with the worst in film. There are some very poor films, but we all know there are some very poor books. Print in and of itself does not connotate a good thing. The fallacious argument of comparing the best with the worst must be put aside.

Educators of all kinds must keep abreast of the technological developments that have import for teaching and learning. They have to evaluate them critically and with an open mind, and then make use of those that would best serve to strengthen the educational program.

In the matter of tools of learning and where these tools are housed and made accesible to users, many and striking changes have evolved in the last twenty years. Even more startling changes have taken place in the past ten years. The schools in which some of us work may not, and probably do not, have all or even many of some of the newer instructional materials and devices, but these do constitute a reality. Many schools, however, do have these materials in considerable quantity and research studies are evaluating their relative effectiveness.

Too often as librarians we will shut our eyes and say they will go away. Well, they won't go away. The tape recorder is going to stay and it behooves us to look a little further. We should all develop the traits of mental agility and the ability to adapt. This strongly suggests continued study and learning for each of us. It seems that with the constant change that we know is taking place that we of all people in the educational scene need to realize that education is a life-long process and this does not mean education for others, it means for us as well.

The number and kind of materials for teaching and learning continue to grow at an alarming and challenging rate. All of these materials are produced for one or several purposes of increasing the learner's knowledge, skill, appreciation, and understanding. As librarians, we are members of a teaching team whose responsibility is to choose the best and most useful of all kinds of available instructional materials and make them easily accessible in the on-going learning situation.

The most central and pertinent thought that I can bring to bear on this topic of devices is most aptly expressed by J. Lloyd Trump in an article he wrote for the ALA Bulletin about a year and a half ago. He wrote that today's teachers and librarians are too concerned with books today, but tomorrow they will relate these books to other ways of knowledge. That is, the librarian will play an important role in assisting the teachers to use books along with various electronic devices. With this rapidly changing technological area, the librarians will need to develop a point of view rather than just amassing the devices. This is what I wish to state. Therefore, although I will mention some of the newer devices which we must plan for in our library quarters, it is with full recognition that these are only a very partial listing which are offered merely for us to enlarge our thinking about what is confronting us.

In addition to the conventional space and equipment with which all of us are familiar, the changing educational program is bringing other housing needs with which librarians should be familiar and for which they should be planning. The library will not have only the problem of a greater abundance of book materials but also the problem of these new devices. These, of course, bring with them the need of more equipment. In other words, fifteen years ago a school was considered very fortunate to have a sixteen millimeter projector. This no longer is going to be the case. This school is going to have many sixteen millimeter projectors, as well as multiple tape recorders and other machines. One concrete picture of the additional features that libraries are going to have to take into consideration is presented by J. Lloyd Trump in his pamphlet Focus on Change. He talks about a school of 1,200 students having spaces for independent study where the largest will be the library reading room, capable of seating sixty students. There will be listening and viewing rooms adjacent to the library which will seat forty students, and ten conference rooms large enough for a group of five people. There will also be five soundproof booths with electronic devices as well as a 1,200 square foot teaching machine room. In addition, there will be three hundred study cubicles in this area. This is the picture he sees.

There are many other space areas and equipment needs of which we must be aware in planning the future library. We used to think in the terms of wouldn't it be nice to have a record player. This is no longer adequate, for the kind of educational program we need is to use many record players. Single and multiple listening posts for disc and tape recordings will also be added. Places where individual children as well as groups of children can pursue research will be a necessity.

These audio-visual materials have been thought of in the past primarily as group media. This is becoming increasingly less true. I do not mean they are not being used as group media, but never before did we think very much about a filmstrip as individual teaching materials. We thought of showing them to class groups only.

We are going to need darkroom facilities to produce locally made film. There are new fast film cameras, when used in ordinary florescent light that do a creditable job of recording all kinds of school activities which can be a material resource for future teaching and learning.

We are going to need individual slide viewers for preview and independent learning. This can be a resource for a term paper or report just as surely as an encyclopedia or a magazine article. Too often in the past we have not recognized this.

Overhead projectors will be needed. They have a great deal of flexibility for the user. One can face the class group instead of having to work from the back of the room as in the case of the opaque projectors. These overhead projectors offer a tremendous variety in what can be done with prepared transperancies as well as universality of using these to make notes which are simultaneously presented to the class.

The newer opaque projectors do not need a completely dark room as was formerly necessary. These, as you know, project flat pictures. These pictures are one of the older instructional media and sometimes one of the very best. They are often one of the cheapest media. To be preserved they will have to be mounted. Here we see the development of graphic laboratories as part of libraries. We are going to see the use quite generally of the dry mount press and wet mounting facilities. Space will be planned for the preparation of posters and other kinds of nonprojected materials for use in teaching. Storage space for the preservation of these materials will also be required.

We will need cubicles in the libraries where students may do research and make notes at the same time. These cubicles will also include typewriters for individual use. A new library in an Illinois high school is a fine example of this. Here are found typewriters for use by students who desire to expedite their research activities.

Something in school libraries that I am quite sure we have only barely touched, because we really thought it was for academic libraries, is the use of microreaders, both microfilm and microcard. A high school librarian in Illinois, being concerned about the space problem and expense of binding magazines, investigated

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the matter of microfilm. He made use of this material and it has been so successful that additional readers have been added. So often we remain in such a tight mold that we do not think of these things because we believe they are not for us. I think that we must maintain a flexible, open-minded adaptability to use anything that will serve the aims of education.

We are going to need in libraries flexible planning of partitions which will allow for the things we see coming in the educational program. That is the training of large groups of children at one time, then at other times in the day having very small groups. Thus, at one time you need the whole room and at another you need small rooms. More and more you find experimentation along this line, and schools are being built so that large areas may be partitioned off into very small rooms.

I shall only mention briefly the teaching machines which will also be used in the library. One of the things that particularly interests me about them is that I have always thought that they may offer us something in the way of helping us to improve library instruction. I also have a feeling that the use of television can teach large groups of people library instruction perhaps as well or even better, since we do it chiefly by the presentation method followed up by some actual experience. I believe that this can be done successfully by television. This brings up the opportunities for viewing. There will be many different kinds of situations in which children and young people will be viewing television and this means multiple receivers. This means multiple recievers and with them will come the necessity for flexible electrical outlets, which we have never had before.

These, then, seem to be some of the considerations that are facing us. This is not a dream. Just because other places do not have these things does not mean that they are not in some schools and that they ought not be in our schools. We need to think and plan now for quarters and equipment that are needed on the growing edge of the best that are known and that are now projected. This is not to lose sight of immediate needs, however, for these we are asking for and planning for daily. If we do not think big and look beyond the immediate, though, we forfeit our opportunity to make the library, the materials center, or the resource center--call it what you wish--a dynamic, central force in the education of children and youth.

A REVIEW OF THE DISCUSSIONS OF THE WORKSHOP GROUPS

by

Mary C. Hammack

The school library movement started in the 19th century, but the impetus was added during the 20th century. The earliest school libraries, however, were merely centers where books were collected, but where no emphasis was placed on service. During the first decade of the century, collections were mainly supplementary reading for English classes. Since that time there have been rapid innovations, and the library has developed with the changes in trends of education and a broadening of conception of individual differences and needs.

Since the school library movement began, we have had four main types of school libraries--the classroom library, the study hall and the library combination, the centralized library, and more recently the materials center in which all types of learning materials, including audio-visual, are combined. Although the classroom library is still used in some schools, especially in the elementary, and is still favored by a few, most educators and librarians agree that the centralized library is the best method of supplying adequate library service. It is here that varied materials for all levels of interest, reading ability, and maturity are housed, and such materials are organized and administered by a trained librarian. The advantages of the centralized library over the classroom library are obvious. It permits wider variety for classroom use; it is more economical, especially in the matter of reference materials; it allows for the availablity of materials to all students throughout the day; and it has a trained librarian. The classroom library has largely been supplanted by the classroom collection.

Functional Approach to Planning

The 1960 Standards for the High School Library Programs states that "planning begins with a study of the educational philosophy, objectives and curriculum of the school, and with a review of the library's current and potential contributions to the total educational program."

The past decade has seen changes in the school library situation. It has long been considered a place where major tools of learning were kept and systematically made available. It has been a place where tables were.

kept in orderly rows, but it has not seemed a matter of great importance that the chairs should be comfortable, probably because it has been considered a place primarily for serious work. In a rather formalized arrangement, the library has been a service agency confining its services solely to those requested by teachers.

Concepts, however, have broadened, and readers have demanded recreational reading as well as the informational kind. Recent years have seen three major aspects of development: 1. The librarian stimulates a demand for library service; 2. The conception of library materials is expanding; 3. The teaching function of the librarian is becoming more important.

No longer does a librarian wait for a teacher to make the demand. She takes an active part in stimulating the use of materials. This change in the librarian's role necessitates changes in space and equipment. Her work in stimulating the use of materials demands that the space in which she works be organized to add to her efficiency. This would call for a suitable workroom, sufficient storage space, a convenient desk, and a well-equipped reading room. If small groups are to be encouraged to use the library, then conference rooms are needed. If entire classes come frequently, a classroom adjacent to the library will be advantageous. If the library is to be used by the adults of the community, it is desirable to have direct access from outside. If classroom collections are requested, provisions must be made for moving, housing, and accounting for them. If there is a marked increase in recreational reading, perhaps an attractive room or area with comfortable furniture informally arranged should be added.

The second major change is a result of an expanding concept of the nature of library materials. Now proper emphasis is being given to materials other than books. Collections of musical recordings, speeches, plays, and many other audio-visual materials are common. Although there is still some controversy over the housing of audio-visual materials in the library, more and more it is becoming the common belief that the control of all materials providing learning experience which are likely to be used by more than one teacher should be centered in the library.

Very often the physical facilities of the library must be changed as new materials are added. For example, a collection of records requires a special place for storage as well as a place for listening, and a collection of pictures requires a place for storage and one for exhibiting.

The third major change in the function of the school library is the assumption by the librarian of an increasingly effective role as a teacher. Library plans should include such teaching aids as bulletin boards, exhibit cases, special rooms for groups and classes, and special rooms for the use of audio-visual materials.

Because schools are changing, libraries, too, are changing, and plans must be made with this in mind. Built-in furnishings should be avoided. The walls behind shelving should be finished so that shelving can be moved without leaving unsightly blemishes. Rooms adjoining the library should be so constructed that their space could be utilized later at little expense.

If convenient and adequate libraries are desired, they must be envisioned at the blueprint stage. The librarian, the school administrator, and the architect should work together in drawing plans for either a new library or a remodeled library.

There are standards to serve as guides, but each school should carefully consider its own situation if it expects to attain desirable library service. The planning should stem from the function expected to be performed.

The librarian has very often been left out of the planning of the school library. This is unfortunate, because her professional training makes her one of the best qualified persons to determine services adequate for the situation and the areas needed to perform these services. A person with such professional knowledge is important and should be respected, and perhaps she should assert herself more in order to be heard.

In preliminary planning, the librarian must study her own school situation. All good library planning is functional, and plans should be adequate to take care of essential services in the specific type of school for which they are made. Some important considerations are:

1. The objectives of the school;
2. The type of curriculum;
3. The number of students and teachers to be served by the library;
4. The possibility of small group work;

5. Possibility of class instruction in the library;
6. The housing of the audio-visual materials and the circulation of them;
7. The administrative and technical services to be performed there.

In addition to the studying of the needs of her particular school, a librarian can increase her store of knowledge by reading recent information on planning. She can get many practical ideas during visits to other libraries, and, at the same time, she will be able to profit by others' mistakes. The State Library Supervisor will give helpful suggestions and recommend literature.

The architect will want to heed the wishes of his client, but, at the same time, he must determine how the building can fulfill its functions most efficiently and economically. His design must stay within the limits imposed by the project's budget, and the construction must conform to certain local, state, and national codes. The preliminary drawing should be studied by the planners to check ways to improve. The location of windows, doors, vents, electrical outlets is very important. There must be sufficient wall space for shelving, and thought must be given to the placing of equipment.

The librarian should make frequent visits while the work is going on because minor changes can be made if caught in time. Perhaps such a thing as a perfect library is too much to hope for. Nevertheless, the more careful the planning and the follow up, the better the results will be. It is wise to keep the seven basic duties of the library in mind. They have been listed as:

1. Acquiring materials,
2. Making materials available,
3. Creating favorable atmosphere,
4. Stimulating reading habits,
5. Providing laboratory conditions,
6. Providing classroom collections,
7. Providing extension services.

To be functional the library should be planned to carry out the following duties:

1. Provide a place for reading and for reference material;
2. Provide teaching for children on how to use books;
3. There should be a place for processing mater-

ials;

4. Space should be provided for study by class, committee, or the individual.

All this would seem to call for a suite of rooms which would include a reading room, a work room, conference room, a library classroom, a librarian's office, and the audio-visual room.

Remodeling School Rooms

In our search for new library quarters, the ideal situation is the construction of a new building or an addition to the present building. This is seldom possible, and it often becomes necessary to establish a library by using available space or by enlarging and remodeling the present one.

Remodeling is expensive. Partitions, doors, blackboards, vents, and electrical outlets must be moved, and floors have to be covered. A decision must be made on the permanency of the construction, because if the new quarters are temporary, as little money as possible should be spent.

The possibility of enlarging the present library very often depends upon the construction of the building or the location of the library in the building. Often an adjoining classroom can provide the needed extra space. A very desirable conversion of space into a library can be realized by the combining of two regular classrooms. A storage room and a conference room can be constructed in a ten to twelve foot area at one end of the room. The room divider can be made of counter height shelving with glass sections above. It is estimated that a single classroom can be made to house 2,000 or more books and seat about forty pupils. Sometimes there is an adjoining cloakroom that can be converted into a work room.

When classrooms are converted, blackboards are removed or covered with wallboard to act as background for shelving. The width and length of standard shelving may have to be altered in order to fill some wall spaces. Careful placing of furniture and equipment can give more space, and the correct use of color in decorating can give the appearance of space.

A library situation of a temporary nature may warrant the use of furniture and equipment already available. Tables, chairs, and shelving can be painted for surprising attractiveness. If new equipment is needed, it is best to buy standard equipment that can be used later in the new library. Much of this can be bought in units and can be added to later. If the remodeled library is to be permanent, buy the best standard equipment the budget can afford.

The Location of the Library

The school library is now recognized as an integral part of the educational program because it is so essential to all students. It should be centrally located, not necessarily in the center of the building, but near the center of pupil traffic where it is easily accessible. This will mean less running about on the part of pupils entering or leaving the library. The nearness to the study hall is favored by many because students from study hall use the library rather frequently.

The general architectural plan of the building is important. If remodeling is to be done or the addition of a new wing to the building, it is often not possible to choose the best location. Some favor a street level library in the same section as the offices. This position is convenient for pupils arriving and for those leaving, for teachers going to the office, for the delivery of mail and books, and it serves as a sort of invitation for pupils and teachers to "drop in." If a library is to be used by the public, easy access from the outside should be provided either at the main entrance or by means of an outside door. In a three-story building, the center of the second floor will probably be most convenient for the greatest number of students. Nearness to the stairway is timesaving.

The library should have plenty of good natural light, if possible. A good outside view can bring cheer into a library, and can improve the general atmosphere. Northern exposures are generally better, especially in southern climates, but exposure should not eliminate an otherwise choice location.

With so many factors to consider, it is impossible to set up rigid rules for locations of libraries, but the library very definitely should not be placed in some out-of-the-way wing, or at the end of a long, narrow corridor, or near the music rooms, the shops, the gymnasium, or the playground. Although sound-proofing is costly, it should be considered when locations are planned.

Library Combinations

The study hall-library combination is the most common of the double duty situations, and the most often criticized. This nearly always results in overcrowding and in discipline problems which make library services difficult. A teacher should be scheduled to assist the librarian with discipline when more than forty pupils are assigned in a study hall-library situation at one time. If a choice has to be made between a librarian who serves in a study hall and having no librarian at all, certainly we should choose the combination.

Some schools use the library for home room or a part-time classroom. A more recent trend has been toward the multi-purpose room. Others have even combined it with the cafeteria. Such arrangements are highly undesirable; librarians should use their influence with administrators against these combinations, especially the cafeteria.

The Size of the Library

In determining adequate library space we should consider the type of program which the school offers, the number of individuals who will use the library, and the need for class group instruction or for committee meetings, and the type of school--elementary, high school, all twelve grades together, or specialized. All will affect the amount and kinds of materials, and consequently, the amount of space needed.

The modern school with its broadened program calls for more adequate library quarters than before. Spaciousness is highly desirable for favorable work.

The reading room is the main room in which the book collection and other materials are housed, and to which the students come for library services. Reading room space is estimated by considering the number of people who will be seated at any one time. From twenty-five to thirty-five square feet is the recommendation. Allowance should be made for ten percent of enrollments over 550, and from forty-five to fifty-five students if the enrollment is less than 550. If students come to the library by class groups, a good estimate can be made by counting the largest class plus twenty.

A width greater than that of the usual classroom will make furniture and equipment arrangement easier.

If students come to the library by class groups, a good estimate can be made by counting the largest class plus twenty.

A width greater than that of the usual classroom will make furniture and equipment arrangement easier. A room should not be more than two and one half times longer than it is wide. In addition to the difficulties in furniture and equipment arrangement, supervision will be more difficult, and it is not conducive to ease of service. The rectangular room is easier to plan, but flexibility should be the guiding factor.

The Architect

The librarian can help the architect by making an analysis of her requirements. It is through mutual planning that desired results can be realized. The librarian should be responsible for informing the architect on the general interior arrangements, relationship of the service areas, reader and book capacity needed, equipment requirements, location of the book collections, plans for special service needs, and requirements fo the staff. The architect is responsible for helping to plan the interior, design, the working plans and specifications, estimating the cost, and superintending the construction. The architect's advice is valuable in all phases of planning and for equipping and decoration.

Special Provisions

There is need for a spacious reading room, for an adequate workroom, for storage space, for a librarian's office, for conference rooms, for library classrooms, and for audio-visual rooms. Books and other materials are received, checked, classified, catalogued, and processed in the workroom. Here, also, damaged books are repaired, and books, and sometimes magazines, are prepared for the bindery. The workroom should be near the main desk to avoid unnecessary steps. There should be plenty of shelves, drawers, and cupboards for taking care of processing supplies. The average size is 120 square feet.

The storage room, sometimes combined with the workroom, is used for rarely used books and back issues of magazines. The size of the school, the number of magazines, and the number of years they are kept will determine the size of the shelving. The average size of such a room is 150 to 200 square feet, and a table and chair are desirable additions.

The librarian's office in large schools should be a separate room equipped with desk, chair, and an extra chair for a guest, filing cabinet, shelves, and perhaps a telephone. The room should be placed where supervision is possible.

If audio-visual materials are combined with the library, an audio-visual room is almost necessary for viewing and listening. This room should be as nearly soundproofed as possible with shades or curtains to keep out the light, and it should be as near as possible to the library.

Small schools need at least one conference room; large schools more. Small groups can work together in such activities as debate planning, panel discussions, or class reports. It is ideal to have a special one for the faculty where quiet reading can be done. Such a room should be approximately 120 square feet, and s should be next to the reading area for easy accessibility to materials and to help from the librarian.

Larger schools often have separate stack rooms, usually equipped with double faced shelving, but general reading and reference materials should not be housed here.

Most elementary schools bring classes as groups for library instruction, and this causes the need for a library classroom. It will usually be used more often by elementary groups than by high school groups. It may be furnished with tables and chairs, or it may have individual desk chairs.

Interior Decoration

Because the reader's mood is often affected by the surroundings, the library must have beauty and brightness, flexibility and informality. By following simple rules of harmony, proportion, and balance in selection and arrangement, excellent results can be obtained. The library should be the most attractive spot in the school, and should have a home-like appearance rather than an institutional one.

It has been found that color is very important to people because of its ability to attract or repel, to stimulate or to quiet. It can create comfort or discomfort, and industry, business, and most enterprises give much thought to study and analysis of the effects of color on clients or buyers. This points to the need for librarians to give consideration to color.

The size, location, and purpose of the rooms must be considered. Color can make small rooms seem larger, help light up a work room with non-irrating shades, and can match the quiet atmosphere of the reading room. The projection room, however, may use dark colors to minimize light reflection..

Furniture color should harmonize with the walls. Usually one main color is used with harmonizing hues in objects and accessories.

Too many pictures, flowers, and statues can be distracting. A few pictures displayed and changed from time to time will add interest. If plants are used, they should be well tended so they will retain their beauty. Fresh flowers artistically arranged often add a touch of graciousness.

Floor Arrangement

Arrangement demands consideration of spacing, lighting, maximum seating capacity, supervision, and conservation of the librarian's time and strength. Discipline is largely dependent upon library arrangement. Tables crowded with chairs until the chair backs almost touch, or equipment placed in such a way as to obstruct the view from the librarian's desk, invite disorder.

A layout drawn to scale with cut-outs of equipment drawn to the same scale, perhaps one fourth inch to one foot, can be made, and these pieces may be shifted about until the best arrangement has been achieved. The general recommendations to be followed are:

1. There should be three to four feet between tables when no chairs are placed there, but a minimum of five feet if chairs are in the aisles;
2. There should be a five foot space between tables and shelving;
3. The circulation desk should command the room and be as near the exit and the work room as possible;

4. The files and the card catalog should be near the circulation desk or the reference desk.

The Ceiling

The height of the ceiling will usually be determined by the height of the ceilings in the rest of the building. Important considerations are color, sound, and height. They should be light in color, usually an off-white, and should give off eighty to ninety percent of light reflection.

Sound proofing should definitely be considered. If cost prohibits the use of acoustical materials for all the ceiling, at least the space above the service area should be treated.

Most older libraries have ceilings that are too high, but this can be helped by the construction of false ceilings. If the budget does not permit this, the light ceiling color can be painted a few feet down all walls to give the effect of a lower ceiling.

Lighting

Good lighting should bring eye comfort and ease of seeing. Bad lighting leads to nervous tension, general fatigue, haadache, and bad posture. This can result in disorderly conduct, and even dislike for books.

The reading room should be designed to utilize as much daylight as possible, but improved artificial lighting in recent years has reduced the necessity of large window areas, However, there can be a great benefit from a good outside view which provides a break or relaxation for the tired reader. Modern recommendation is that the window area be at least twenty-five percent of the floor area, except in very sunny exposures.

When artificial lighting is used, it must be remembered that glossy and shiny finishes show reflections, but dull finishes will not. Reflections should be avoided as much as possible, and table and surfaces should not give too much contrast to the printed page.

The amount of light needed is expressed in foot candles. This is the amount of light furnished by one standard candle at a distance of one foot, and variations have ranged from no less than five foot candles in a reading room in 1920 to seventy at the present time. When we learn that on a sunny day in the shade the daylight is about 1000 foot candles, we may reason that the seventy now recommended may someday be as outdated as the five recommended in 1920.

Proper foot candles is not enough, there must be an even brightness. Light should not come from any special spot, it should be equal everywhere. This will help avoid shadows by furniture or readers. To reduce glare all furniture should have a dull wax finish, and the walls and ceiling should have no shine.

Light fixtures may be recessed inceeilings considered low, and they can project down from high ceilings. Three types of lights are the incadescent filament, the fluorescent, and the cold cathode. Each has its advantages and disadvantages, but the fluorescent type enjoys wide use. Most of the early complaints against this type have been corrected. They now light instantly, and the flicker and hum have been eliminated.

Heating

Heat can be injurious to books; therefore, all radiators and outlets should be as far removed from shelves as possible, and they should be installed beneath windows to conserve wall space for the shelves. A comfortable temperature of seventy-two to seventy-six degrees should be maintained with a relative humidity of about fifty percent and adequate circulation.

The three basic types of heat are steam, hot water, and warm air. The steam systems can be the one-pipe type used more ecomomically in small buildings, or the superior two-pipe type which can be adapted to any size building. In this system the pipes can be given to individual rooms. It is quieter when steam is introduced into cold pipes, but more expensive.

Hot water systems have the one-pipe or two-pipe types also. Both steam and water systems make the placement of radiators important. Radiators placed below windows offset cold drafts that would otherwise flow downward across the glass.

Warm air systems are especially advantageous where ventilating or cooling systems are to be provided as a part of the original system. They are desirable when humidification is required. Their vents can be placed in the floors or in the ceilings.

Ventilation

Air conditioning in hot weather is as necessary to good health as good heating in cold weather. Bodily discomfort can put a person in a bad mood, and bad air produces drowsiness, inattention, and idleness which are fore-runners of mischief. Filtered air, dehumidified as well as humidified, is important for human comfort as well as for the preservation of books.

Propellor fans used for ventilation give a relative amount of comfort, but they bring dust and odors in from the outside. Air conditioning systems filter the air free of dust and odors and remove heat.

Floor Covering

Freedom of movement and the necessity for quiet calls for noiseless floors. Some considerations to make in your choice are daily care required, ease in making repairs, durability, service and cost. The floor should harmonize with the rest of the room, but light floors show dust and footprints less.

The various types of floor coverings have advantages which outweigh the disadvantages, and it is difficult to decide which type is best. For example, the quietest floor is cork tile, but it retains dirt, deteriorates if subjected to grease or oil, and should not be used near outside doors. This type floor is susceptible to indenting. Linoleum of one-eighth thickness is not as glamorous as many types, but it is always a good, economical buy, and its durability, maintance, and resistance to grease and oil are excellent. Through-grain vinyl asbestos is superior to other vinyls because the pattern goes all the way through the tile. Rubber tile is superior in quietness, is easily cleaned, and resists denting, but it is more expensive.

Some floors could bring a feeling of elegance into the library, but their cost is likely to be prohibitive. Custom Carlon, Linotyle, and solid vinyl are some of the very expensive, but excellent materials.

Solid vinyl, for example, would cost as much as $2.50 per foot. Carpeting, a real luxury, might be used to advantage in some libraries.

Equipment and Furniture

An approximate estimate of equipment cost may be obtained by using $2 to $3 per square foot, ten to fifteen percent of the building cost, or obtain figures from recently completed projects. The three basic attributes which apply to the selection of all library furnishings and equipment are function, durability, and beauty. Function includes comfort, comvenience, efficiency, simplicity of operation, and economy of maintenance. Durability is an importnat consideration. Care must be exercised in obtaining furnishings which will stand up under hard use year after year. Beauty in library furnishings has been slow in coming, but today there is a big range of styles, materials, and colors.

Hardwood is still the most popular material for library equipment, but plastics have recently been growing in popularity. Acceptance has been slow, but plastics are only about ten years old. The new material has great variety in color, and has a variety of realistic wood grain patterns.

Built-in shelves and card catalogs are not recommended. Standard equipment is usually constructed in units that can be fitted together for future expansion. Tables, however, need not be standard. They can vary in size, shape, and height. Of course, height should be determined by the size of the readers. Some items such as cupboards or bulletin boards, often fit spaces better if they are built in.

In recent years there has been a shift from the conventional library furnishings to a more informal style. At least part of the seating is made up of groups of chairs and sofas.

Wall shelving is usually more satisfactory for schools. It should be made of hard woods like oak, maple, or mahogany rather than soft wood. Shelving should be in movable units because one never knows when rearrangement may be necessary. If a school has special or valuable editions, perhaps some shelving should be equipped with glass doors which can be locked.

Some round tables in the reading room tend to break up the monotony of straight rows of rectangular tables. These round tables should be about four feet in diameter and should seat four. It is desirable to have a few individual study tables, the size of which will also add variety to the arrangemnnt. Chairs should be stout, rather plain in style, and comfortable.

The essentials of a circulation desk are a sunken section for charging trays, a cash drawer, a supply drawer, and a storage space for books being returned. The shapes may vary from the plain counter, to the U-shape, the L-shape, or the wing-shape.

Filing cabinets should be standard. Catalog cases, for example, can be bought in units and added to later. If they are standard, the catalog cards will fit exactly, and the trays should have rods and locks for keeping the cards in place. Special cabinets will probably be required for maps, charts, or posters. If audio-visual materials are stored in the library, special shelves and cabinets are needed.

Every library needs book trucks. They are usually made with two shelves and have ball-bearing wheels with rubber tires.

Good bulletin board displays add to the informal, friendly atmosphere of the library. At least one or two large areas and some smaller spaces should be provided. A cork board is the best all round type of board. A good bulletin board near the entrance is highly recommended as an attention catcher.

Mechanical Equipment

The most widely used mechanical equipment in the average school library is that used with audio-visual materials. There are motion picture projectors, slide projectors, and opaque projectors. More and more use is being made of televisions, radios, tape recordings, and phonograph records.

Microfilm equipment permits the storing of vast amounts of information in a restricted space. The reading machines are not at present generally to be found in school libraries, probably due to the cost and the lack of genuine need.

Equipment such as mechanical charging speeds the service in large libraries. One widely used type is the photo-duplicating machine. The card duplicator is used in some libraries, but the availability of Wilson and Library Congress cards often lessens the need of this equipment, unless centralized processing of materials demands it. Duplicating machines are generally used outside the library and by the rest of the school.

It is possible that libraries may sponsor the new teaching machines which make use of programed learning by having the student read questions and select answers. Correct answers allow him to move on; mistakes cause him to be directed back for review. This would simply prove that the school library is an instructional materials center, offering not only books but all audio-visual aids to learning.

OUTLINE

I. Functional approach to planning

    A. Standards for planning
    B. Services to be rendered
    C. Location of the library
    D. Remodeling school rooms

II. Architectural design

    A. Size of the library
        1. Dimensions
        2. Seating capacity
        3. Floor space

    B. Special areas
        1. Workroom
        2. Storage room
        3. Librarian's office
        4. Audio-visual room
        5. Conference Room
        6. Library classroom

III. Interior decoration

    A. Aesthetic qualities
    B. Floor arrangements
        1. Elementary school
        2. Secondary school
        3. Twelve-grade school

IV. Special physical provisions

    A. Lighting
    B. Heating and ventilation
    C. Ceiling
    D. Floor covering

V. Equipment and Furniture

    A. Shelving
    B. Furniture and movable equipment
    C. Bulletin boards and display equipment
    D. Specifications for equipment and furniture

VI. Mechanical devices

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